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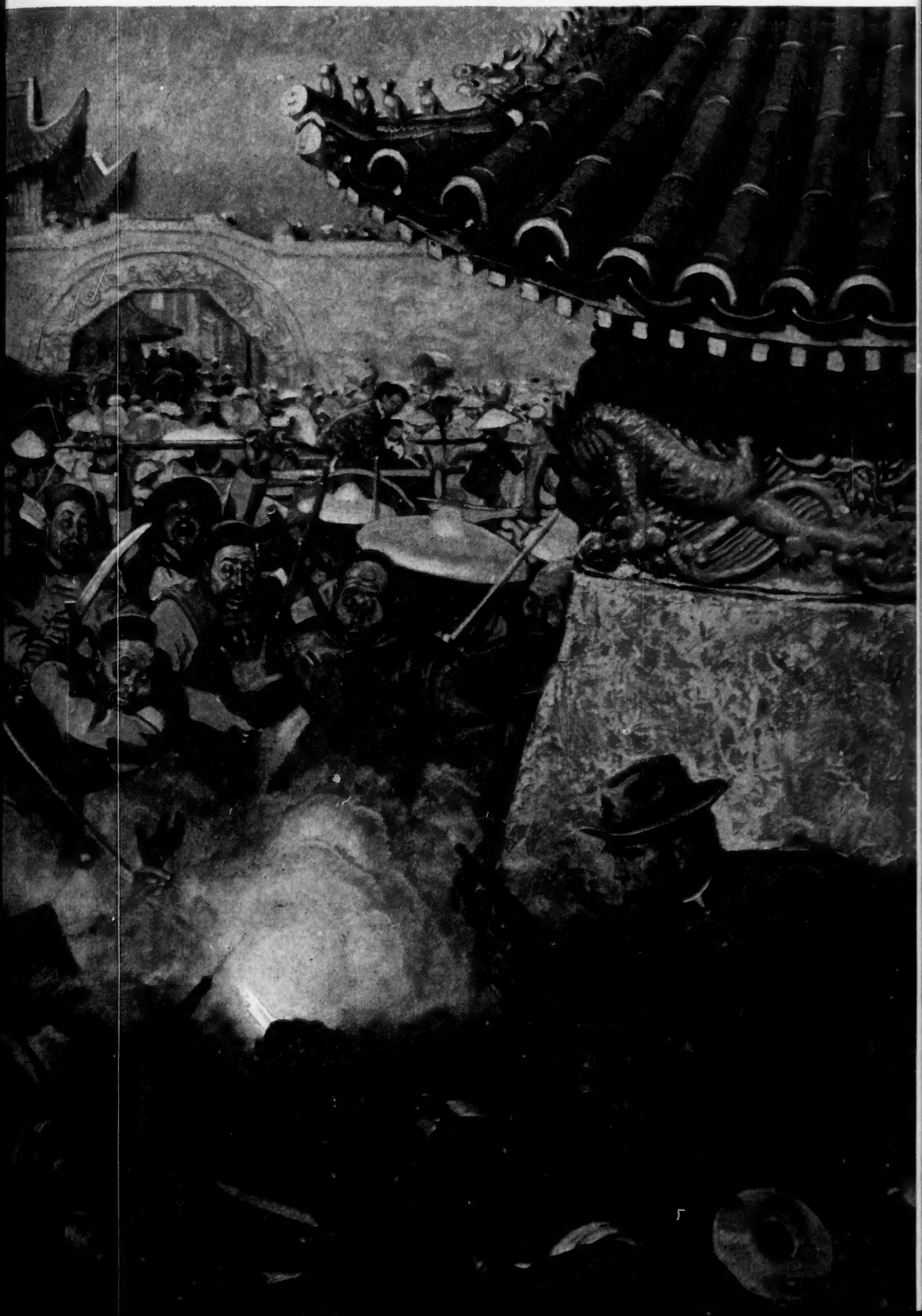

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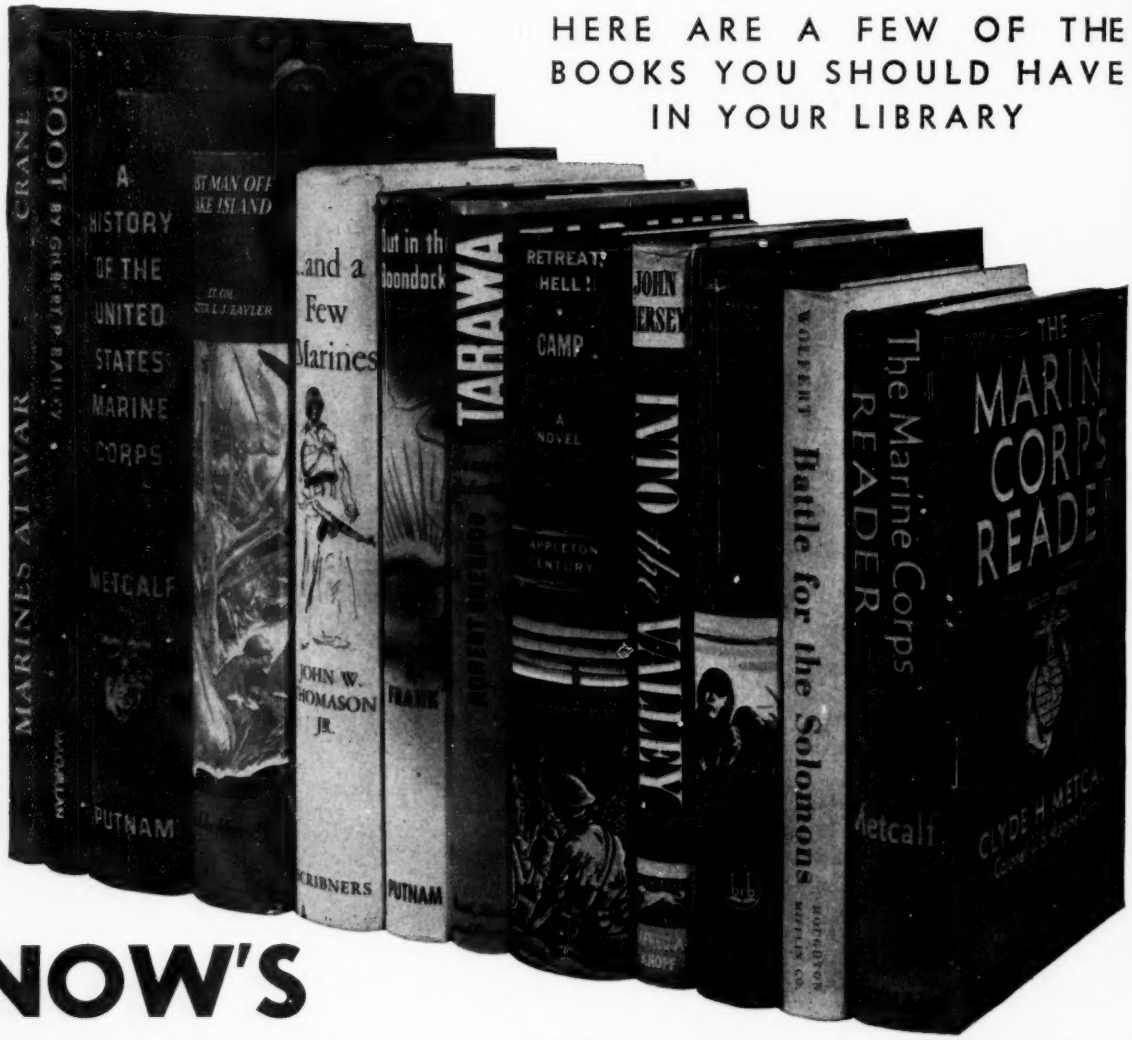

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Gazette

FEBRUARY 1945

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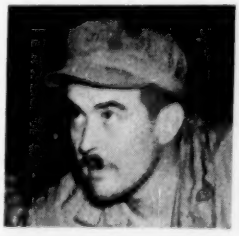
THIS MONTH'S CONTRIBUTORS

Major Guy Richards ("Jungle Patrolling—2") has been an explorer, an able bodied seaman, and a Marine officer during some of the Corps' most trying engagements of this war. He now is on an inactive status with the Corps and is a writer for the New York *Daily News*. His seventeen months of duty with the Fifth Marines gave him combat experience at Guadalcanal and Tulagi as well as Talasea and Cape Gloucester. He was graduated in 1927 from Yale and entered the Corps in July, 1942.

W. H. B. Smith ("Identifying and Using Jap Equipment") developed an interest in ordnance at the age of two, when two granduncles, one a veteran of service with Phil Sheridan and the other of service with Younghusband at Lhassa, took him on a tour of arms plants, armories, and museums throughout the world. His interest continued into adult life when he was employed by Armstrong Vickers, by the Secretariat of the League of Nations as an arms expert, and then entered the field of research and purchasing for Hollywood and collectors groups. He is author of an authoritative weapons book published by the Military Service Publishing Company.

Lt. Colonel M. S. Currin ("How Staff Officers Are Trained") has seen varied service since enlisting in the Marine Corps in 1928 and now is the executive officer for the Command and Staff School at Quantico. He was commissioned in 1935. Since the war he has commanded Raider operations at Segi Point and Enogai, Viru Harbor and Bairoko Harbor, New Georgia, where his work and conduct on dangerous reconnaissance missions received recognition.



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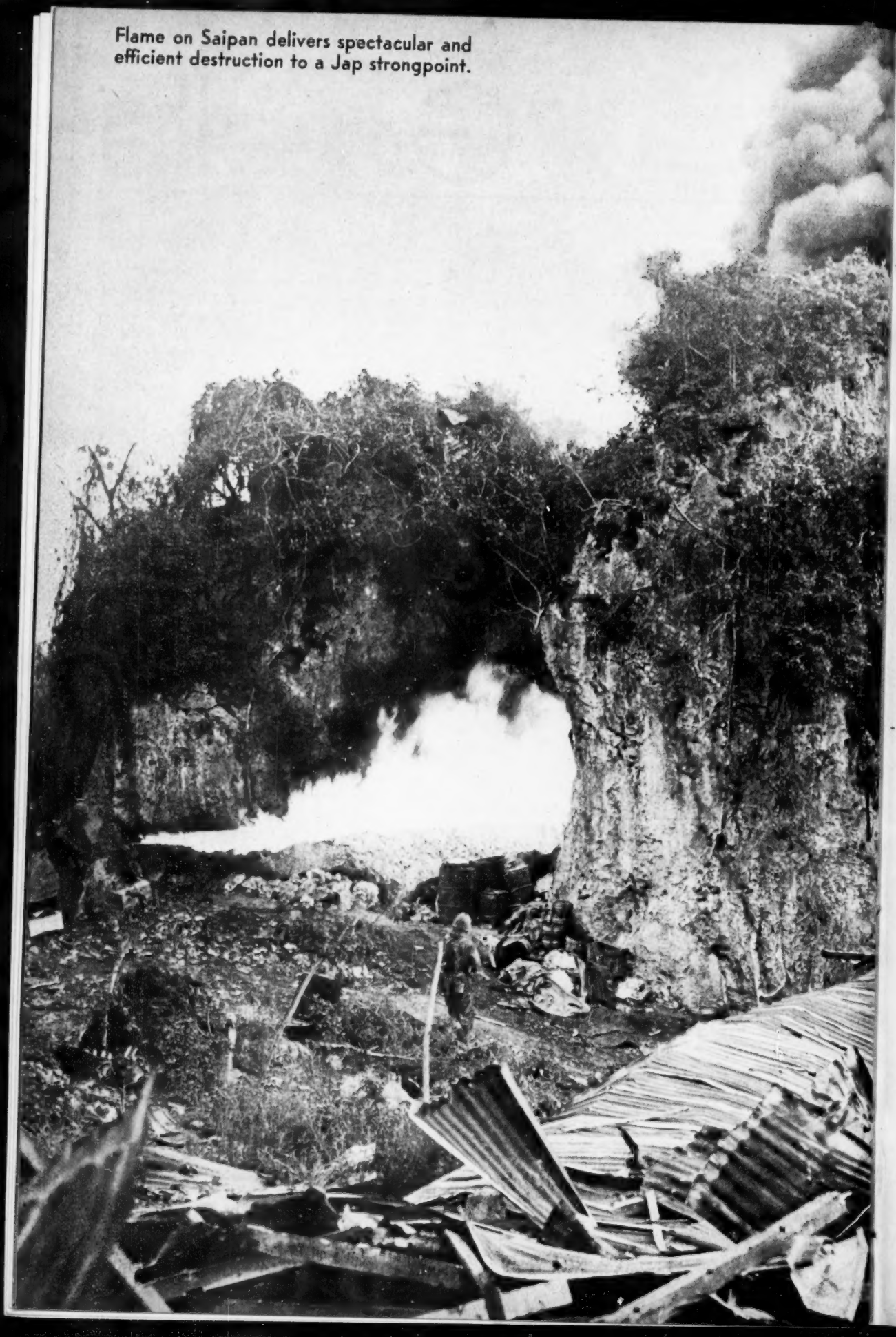


Flame on Saipan delivers spectacular and efficient destruction to a Jap strongpoint.

Fighting With Fire

The oldest weapon in history assumes new importance as smoke and flame prove their value in offensive and defensive warfare. Improved techniques promise an even wider use of this potent weapon. *By PFC M. H. Crow**

OUT OF the chemical laboratory have come many weapons which World War II has given a definite place in offensive and defensive warfare. Some of these weapons, such as the portable flamethrower, have become such commonplace items of infantry use that their chemical backgrounds practically have been forgotten. Others still are in the making as new problems call for new methods of attack.

The words "chemical warfare" sometimes are used synonymously with the devising of destructive gasses or the search for methods to fight such gasses. But one can ignore the "gas warfare" angle entirely and still have left a large and interesting field in which wartime chemical ordnance operates today. The science which "treats of matter considered as composed of atoms, and of their relations and affinities" now fights with combat troops. Certainly, the Marine Corps has found chemical weapons a useful ally in its battles in the Pacific.

The Chemist Contributes to Warfare

Fire, the oldest weapon in history, has taken on a new importance not only in the Jap-infested caves and pillboxes of the Pacific, but on the European battlefront as well. The flamethrower, terrifying in its quick, hot burst of sudden death; aerial incendiaries that can quickly devastate a factory; white phosphorous smoke that burns as it screens—these weapons have been the chemist's major contributions to the field of offensive weapons.

The flamethrower, as contemplated by modern warfare, was introduced on the western front by Germany in 1915. Following that conflict, the weapon was outwardly dormant but, of course, Germany continued its development, and the United States was not unaware of its possibilities. Flamethrowers used in combination with smoke screens proved effective when used by the German army in storming the Belgian fort of Eben Emael in 1940, and have been used elsewhere in special operations in Italy, France, and Germany.

Marines on Guadalcanal are believed to have been the first United States forces to use the flamethrower in combat. At that time, the weapon still was considered skeptically by combat commanders as its dependability, vulnerability, and operational use were in doubt. On Guadalcanal, in December, 1942, an officer from the Army's Chemical Warfare Service instructed eighteen Marine volunteers in use of the weapon. The flamethrower was put into use the day after this brief instruction and blasted out a Jap position that had been delaying the advance. The flamethrower used on Guadalcanal was the M1A1 and was fueled at the will of the operators, as no exact formula for the most practicable fuel was obtainable at that time. The M1A1 fuel consisted of heavy oil lodged in the steel fuel tanks carried on the back of the operator. An attached pressure cylinder contained compressed air or nitrogen and there also was a small cylinder containing hydrogen, which was used to ignite the fuel oil.

The flamethrower was used so little on Guadalcanal that it was difficult to evaluate it. But on Munda, in the summer of 1943, the flamethrower really won its battle honors, when what is believed to be the first flamethrower assault coordinated with infantry and artillery in a combined attack plan was carried out with great success. The M2-2, portable "jungle" flamethrower of the CWS, now is standard equipment for Marine infantry combat teams. Although use of the weapon ordinarily is assigned to specialists, all Marine

WP bombs scorch Jap defenses at Rabaul and mark off targets for explosive bombs.

* Based on information furnished by Major George O. Gillingham, A. U. S.

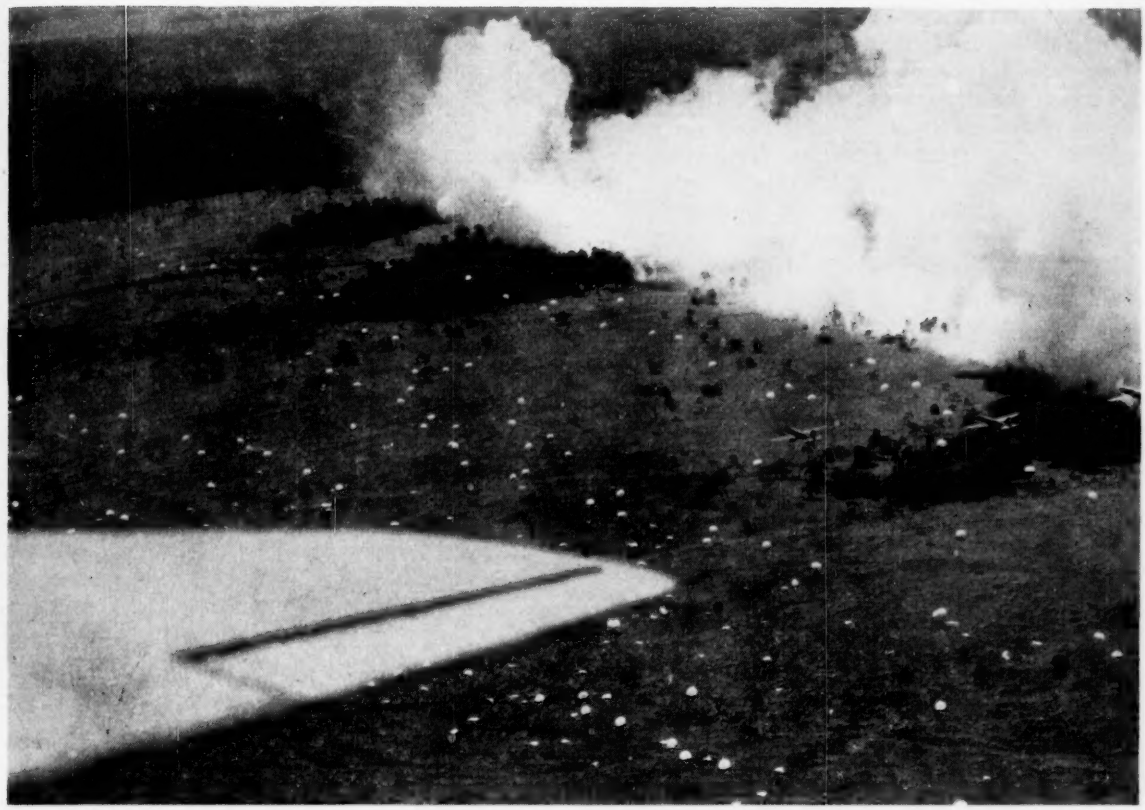
Customary use of a portable flamethrower, with the operator being protected on both flanks by riflemen, is illustrated by three members of an Army CWS unit.

infantrymen are indoctrinated in its operation and each battalion has a number of flamethrowers included in its equipment. M2-2 is designed for use in all climates, and fires jellied oil, a thick fuel which turns into blazing oil chunks that splatter and cling to the target. Range of the M2-2 is much greater than that of the M1A1. An additional feature of the M2-2 includes a smooth-contoured fuel tank, which permits the operator to crawl through underbrush. The weapon is thoroughly water-proofed. A small atomizer hole in the nozzle sprays a fine, readily ignited booster to help start the main stream of oil. So accurate is the M2-2 that troops preparing for action have had flamethrower target practice on rifle ranges. The M2-2 flamethrower has the additional advantage over its predecessor, the M1A1, in that it does not use hydrogen, the properties of which ingredient placed in the M1A1 to ignite the fuel, made it more dangerous to the operator.

Flamethrowing Tank Effective

A comparatively new flamethrower development—the flamethrowing tank—has met an enthusiastic reception from Marine combat commanders, who found it effective both in the Marianas operations and on Peleliu. The Corps now is using four or five different model tanks with flamethrowing equipment. Commanders have reported that the flamethrowing tank is an extremely efficient weapon in blasting out strong and stubborn enemy positions. Because of its short range, the portable flamethrower sometimes has been thought a vulnerable weapon, and, of course, a tank can operate in greater safety as well as give a greater continued concentration of fire. However, the portable flamethrower customarily is used by teams which provide a cover of rifle fire for the operator, and casualties among flamethrower operators have not been exceptionally high. The portable flamethrower has been used by Marines for tasks as diverse as knocking out a sniper or pouring through the narrow slits of Jap pillboxes to reach an interior which no other weapon could approach.

When first considered for warfare, the flamethrower was looked upon as primarily a terror weapon. Experience in the Pacific has proved that it terrorizes but that its principal effectiveness is to destroy positions which neither shell nor rifle fire can affect. The Army's Chemical Warfare Service firmly believes that death from the flamethrower is practically instantaneous, so previous objections to its use as "inhumane" hardly apply. Effectiveness of the flamethrower cannot be



Protection for paratroopers landing at Lae, New Guinea, on September 5, 1943, is provided by FS smoke screen pouring from M10 tanks carried by planes.

doubted when it is known that a flamethrowing tank at Saipan succeeded in killing seventy-five Japs entrenched in one cave.

No mention of chemical incendiary weapons would be complete, of course, without the ubiquitous white phosphorus. The properties of WP make it effective in hampering operations of the enemy as they chase down its casualty-producing bits of fire. Its smoke can spoil the enemy's view of troops moving in for the kill. Smoke rising from a WP munition also can effectively spot a target for support fire. Marine combat infantry units are furnished with WP grenades.

Smoke Devices and Their Uses

In the field of non-casualty producing smokes, all combat Marines know the helpfulness of smoke used in support of assault troops landing on an enemy beach. Naval vessels and airplanes screened landing parties in the Marianas with clouds of smoke. In addition, Marine special weapons units are equipped with HC smoke grenades, a hexachlorethane concoction, weighing less than two pounds and burning for two minutes. With the WP grenade, this HC grenade has proved effective for close-in combat in the Pacific.

Army units are equipped with larger and more varied smoke producing devices. The M1 HC smoke pot, weighing about eleven pounds and burning about six minutes, gives off dense clouds of white smoke; producing smoke instantly when its matchhead striker is pulled. A larger version, the HC M4, is dropped from naval vessels and floats with only its top third above water. The Army used the M1 mechanical smoke generator to screen Naples, and has found this large instrument, which resembles an old-fashioned fire engine in appearance, effective from the time of its initiation in Oran in November, 1942, until the present. This generator is used to provide continuous smoke protection over protracted periods for Allied cities in danger of aerial attack. It is moved by truck or tractor, and, with a two-man crew constantly on the alert, can, with suitable carrying wind, screen a square mile area within ten minutes. The Army also has designed a 180-pound smoke generator, the M2, especially for amphibious operations. This generator, called the "foxhole generator" by the CWS, was designed for shock troops and am-

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The German Army's use of smoke is described in detail in the article "Smoke—the Modern Armor," by Brig. General Alden H. Waitt, U. S. A., published in the July, 1944, issue of the GAZETTE.

phibious operations where space is at a premium and mobility is necessary. The M2, burning hydrocarbon fog oil, can produce half as much smoke as the M1. Another CWS version of the smoke generator is the "smoke drake" M1, which consists of a standard mechanical smoke generator mounted on an amphibious "duck."

The use of WP munitions for spotting targets was mentioned above. Artillery and mortars have varied their explosive charges with WP shells to determine where their explosives are striking, as it is difficult in the jungles to spot the falling of explosive shells. Another use of smoke has been the arrangement of colored smoke for signaling purposes. In July, 1943, during the landing in Sicily, a paratrooper outfit, blown off its course, had prearranged yellow smoke to mark its sector. Four grenades of yellow smoke were used to mark off its position, and allied planes overhead carefully avoided the area. The Marine Corps at present is considering adoption of colored smokes for such purposes.

The 4.2 Mortar Comes of Age

The 4.2 mortar of the CWS is a weapon which has met with considerable enthusiasm when used in support of Army infantry units not only for the launching of WP shells but of high explosives as well. This weapon was developed originally in 1924 to launch gas shells and was, for a time, included in Marine Corps ordnance equipment. Its use by the Marine Corps was dropped in 1939-40, but the Corps at present is considering readoption of the weapon as the result of endorsements from Marine combat commanders who have seen the remodeled weapon used in combined operations with the Army in the Pacific. The 4.2 is a rifled mortar for which a high degree of accuracy is claimed. First used in this war during the landing in Sicily, the 4.2 mortar units of the CWS have since become almost constant companions of Army infantrymen. Since Sicily, this mortar has been greatly improved and developed into a long range weapon. With its barrel and baseplate strengthened with new metal alloys, the 4.2 has a range of about two and a half miles. A special mount also has been developed, enabling the mortar to be fired from landing craft in amphibious operations. The 4.2 can be carried by its crew, by two-wheeled cart, by jeep, or by pack animal.

This 4.2 mortar squad in Italy fires both WP and high explosive shells at the Nazis.

Impressive Record of Accomplishments

CWS figures state that the 4.2 can lob more than twenty rounds a minute, with each shell weighing about twenty-four pounds and containing eight pounds of WP or TNT. Trained crews can get six shells into the air before the first has landed. In Sicily, the mortars fired at concrete pillboxes, halftracks, fortified houses, tanks, infantry concentrations, machinegun nests, and artillery positions. One mortar unit burned out a machinegun nest by igniting a wheat field with incendiary WP. Another mortar company, when no artillery was available, took on a battery of German 88-mm guns in Italy and destroyed the 88s with only twelve rounds, although the German 88 outweighs the 4.2 thirty times and has a range four times as great.

Chemical weapons, both incendiary and smoke-producing, also are included in aviation ammunition today. The use of aerial incendiaries, which has been wide in Europe's battle areas, has been limited thus far in Marine Aviation. This, of course, is due to the fact that incendiaries are most effective against buildings and populous areas. Marine Aviators are trained and equipped, however, for the delivery of all types of aerial incendiaries—magnesium, thermite, phosphorus, and oil. As their targets move closer to Japan, use of incendiaries undoubtedly will increase. At Rabaul, where presence of buildings justified their use, Marine planes dropped magnesium.

In the European theatre, the use of airborne incendiaries has mounted to tremendous proportions. Used alone, incendiary bombs raze warehouses, factories, and other combustible structures. Used with high explosives, they complete the destruction by spreading fire through the rubble of bombed-out buildings.

CWS supplies aerial bombs containing incendiary material and packed in clusters which are tied together much in the manner of a bundle of wood. When released from the bomb bay, the clusters break open by means of an automatic trip wire as they fall from the plane. These clusters come in weights which vary from four pounds into the hundreds of pounds.

These MI "smoke drakes," big mechanical smoke generators mounted on ducks, screen the landing of supplies in a pre-invasion test off the coast of England.

An unusual type of oil bomb developed by the CWS is the M69. Petroleum is the basis of the mixture, and the M69, whip-like in appearance as it falls, was used for the first time in an AAF raid on the occupied city of Changsha, China. The M69 remains dormant for a few seconds upon striking its target. It then spits chunks of flaming oil twenty-five yards in all directions. The splashes of oil cling to the target as they burn. The bomb's burst is much like that of the M2-2 flamethrower, as the fuel used is a similar mixture—an orange-colored gelatin that burns at a temperature of about 3,000 degrees Fahrenheit. The M69 has a peculiar tail, consisting of four lengths of cotton gauze, forty inches long and four inches wide. These streamers break free like tiny parachutes as the bomb falls toward its target, slowing the descent to a speed which prevents the bomb from smashing to pieces when it lands and yet providing sufficient force to pierce tile, slate, wood, composition shingle, or galvanized iron roofs.

White phosphorus also provides another frequent ingredient of aerial incendiaries.

Smoke screens laid by air are one of the most spectacular chemical weapons in use at present, and have proved of practical value as well. Near Lae, New Guinea, in September, 1943, 1,700 paratroopers were screened by smoke which, sprayed by seven planes, settled first to the ground and then spread up 4,000 feet and out 400 feet. At Rabaul, shipping in Simpson Harbor was damaged heavily when attacked by planes under smoke cover which marked off the targets with two dense smoke walls. At Bougainville, Marine planes marked off the beachhead by smoke spray for the benefit of assault teams making the landing.

Planes equipped to lay such smoke screens carry smoke tanks, which can be mounted under the wings of fighters or bombers. The smoke producing ingredient used is sulphurtrioxide (FS). The CWS M10 wing tank holds 432 pounds of the FS liquid, and discharges the chemical by gravity. In action, a vent at the front of the tank opens simultaneously with the outlets at the rear, sucking in air to help force the FS from the tank. The liquid is broken up into small droplets by the propwash and then becomes "atomized" smoke. The M33 smoke tank, also a gravity discharge tank, is much larger and is mounted in the bomb bay of a large bomber with a small pipe running down from the bay to spread the FS.

Marine Aviation, cooperating with the Bureau of Medicine and Surgery, has been conducting experiments with chemicals designed to blast another enemy in the Pacific—the insect population. Methods of spraying areas with suitable insecticide, much as large orchards have been sprayed by air, are being studied for Marine planes as well as for use by tanks. Insects can be as formidable and irritating an enemy as the Japs.

The use of all these chemical weapons has been as varied, of course, as the ingenuity of the individual using them. In conclusion, two instances of such ingenuity might be mentioned. An Army infantryman attached a string to a thermite grenade, placed it before his front-line position, and, upon hearing a suspicious noise in the night, pulled the string, lighting the area. If the noise turned out to be a prowling enemy, he could be safely dealt with from the shelter of the infantryman's foxhole.

And Marine Aviators have found an unusual use for incendiary bombs. They used their incendiaries to burn out gardens that isolated Japanese units have attempted to raise to supplement their rations, which grow shorter and shorter as the Jap navy begins to call its roll at the bottom of the Pacific.

—END

Advance on Orote Peninsula

All along the line of advance the Third Battalion, Fourth Marines, encountered bitter resistance and all kinds of obstacles. Still, the battalion moved forward. *By Major Anthony Walker*

ON the morning of July 27, 1944, the Third Battalion, Fourth Marines, was in line facing north near RJ No. 15, about 1500 yards southeast of Orote Airfield. On the battalion's right was the Sumay Road, on the left a thickly wooded swamp. Three hundred yards to the front a small ridge ran parallel to the battalion's line. Beyond this ridge a cocoanut grove extended 500 yards to the north on gently rising ground to a higher brush covered ridge behind which, hidden from view, was Orote Airfield.

The battalion jumped off at 0700 attacking to the north behind an artillery barrage. The two assault companies supported by tanks moved forward toward the small ridge 300 yards to their front.

Almost immediately mines were located near the Sumay Road and extending to the left across "L" Company's front, the right assault company. The mines were poorly camouflaged, mostly aerial bombs, with their noses rising several inches above the ground. The tanks guided by infantrymen weaved their way between the mines and continued to advance.

Along the base of the small ridge to the front were dugouts carefully camouflaged and occupied by light and heavy Japanese machineguns. The enemy held his fire until the assault platoons were within 200 yards. "L" Company was hit by heavy automatic fire along its entire line. The Marine tanks, however, firing at point blank range literally smashed the dugouts into rubble. "L" Company moving through the tanks occupied the ridge shortly thereafter, mopping up the dugouts with white phosphorus grenades and BARs.

Resistance Becomes Bitter

On the left, "I" Company had moved forward through thick brush against scattered resistance and sniper fire. By 0900 the battalion was in line along the small ridge and immediately moved forward into the cocoanut grove. Again "L" Company was brought under fire by a second line of enemy emplacements. The tanks, unable to cross the small ridge, had moved right to the Sumay Road and were unable to bring immediate support to "L" Company. Japanese knee mortar fire began falling among the platoons. Heavy sniper fire from across the Sumay Road cut into "L" Company's right flank. The fighting in the cocoanut grove was extremely bitter and progress necessarily slow. Captain Bill Stewart of "L" Company and his platoon leaders, Lieutenants M. C. Plock, E. A. Hedahl, and M. D. Perskie, led their men in a yard by yard advance. Casualties were heavy.

The Battalion Surgeon, Lieutenant Harry Miller, pushed his aid station up immediately behind the lines. Working under fire continually, his section miraculously found and evacuated every one of the scores of wounded.

Effective Measures Permit Advance

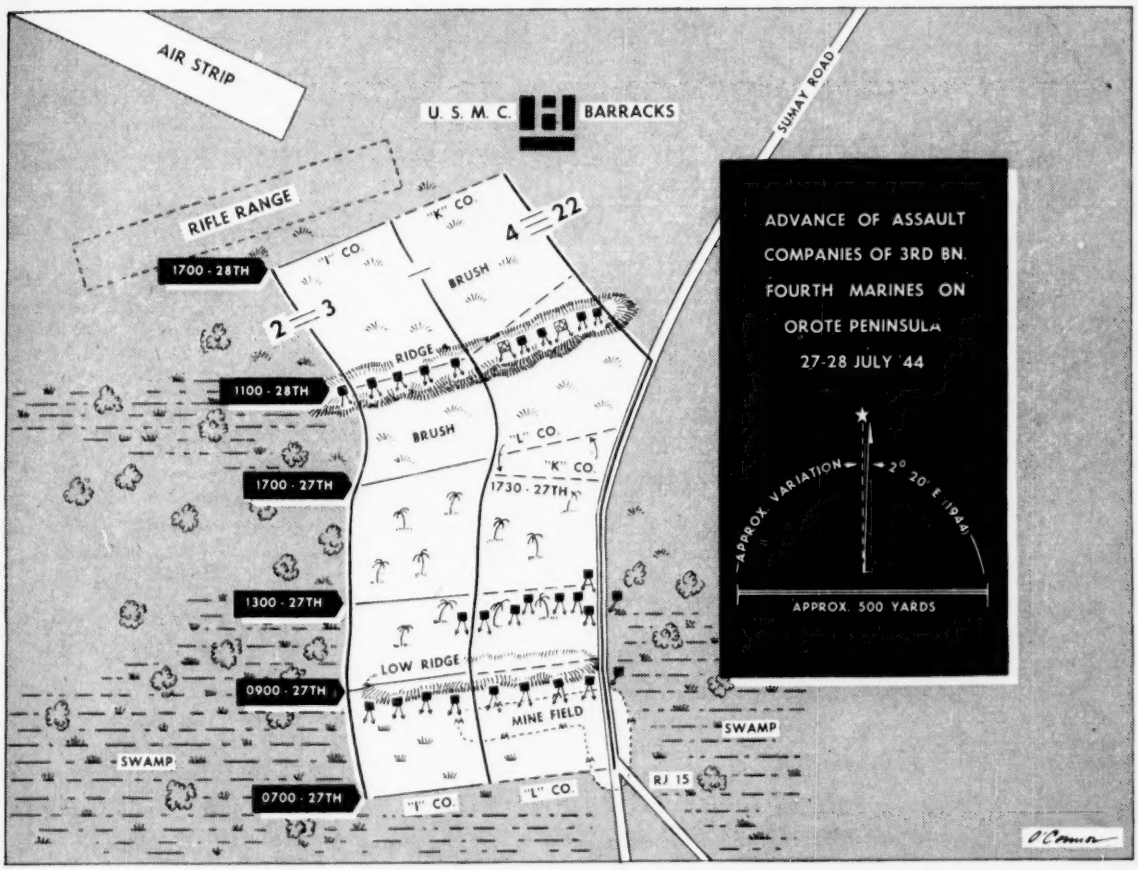
By 1300 the enemy dugouts in the cocoanut grove and along the Sumay Road were finally knocked out. Fire from 81-mm and 60-mm Marine mortars had destroyed most of the snipers and Japanese mortars remaining above ground. The battalion moved forward through the grove and along the Sumay Road toward the higher ridge now only 400 yards away to the north. The Marines passed groups of fifteen and twenty enemy dead, usually clustered near a destroyed machinegun emplacement. Tank fire had killed many of the Japanese. Others, forced from their dugouts by white phosphorus grenades, had been cut down by BARs and M-Is.

"I" Company on the left broke out of the cocoanut grove at about 1530 and immediately came under the fire of enemy machineguns from the high ridge to their front, the last ridge before Orote Airfield. Enemy positions on this last ridge were well constructed, many of concrete. Their machinegun fire formed a final protective line along the forward slope of the entire ridge.

By 1700 "I" and "L" Companies were in line 250 yards below the crest of the ridge. The Twenty-Second Marines on the right were moving up the Sumay Road abreast of "L" Company. Dusk was beginning to set in, and burning Japanese oil drums lit up the area.

Moving Toward the Ridge

Enemy movement on the ridge was noticed. Japanese infantry was moving behind the pillboxes. The enemy machinegun fire increased. At this time the Fourth Marine tanks still supporting "L" Company ran out of 75-mm ammunition. Half tracks were rushed forward from the Regimental Weapons Company. The two half-tracks under Lieutenant D. N. Schriner moved forward through the infantry and fired point blank into



the Japanese emplacements on the ridge. Casualties were suffered by the half track crews, but their fire was effective in silencing many of the enemy guns.

At 1720 in the gathering dusk forty Japanese infantrymen advanced down the Sumay Road toward our line. The officer leading them carried a large Japanese battle flag. The Fourth Marine tanks under Lieutenant J. R. Williams, now restocked with ammunition, opened fire on the enemy column at 300 yards. The first shell exploded in the road just at the head of the column. The Japanese officer and his battle flag were blown into the air. BARs and LMGs from "L" Company's firing line cut down the surviving enemy. At 1730 "K" Company deployed behind the lines, moved forward, and relieved the battle-weary men under Captain Stewart of "L" Company.

On orders, the battalion held up for the night still 250 yards below the enemy-held ridge.

During the night of July 27, the Japanese positions were subjected to heavy mortar and artillery fire. No enemy counterattacks developed. Enemy fire was weak and toward morning practically ceased on the Third Battalion front.

At 0800 on the morning of July 28, following a heavy forty-five minute artillery preparation, the Third Battalion, Fourth Marines, jumped off attacking to the northwest towards the airfield. By 1100 "I" and "K" Companies had occupied and mopped up the final ridge. Enemy resistance was weak, and Third Battalion casualties light. In some emplacements, ten to fifteen enemy dead were counted huddled into the confined space of a concrete or log pillbox. The Twenty-Second Marines had moved past "K" Company's right flank toward Sumay and the Marine Barracks.

Success in Sight by 1600

During the late morning and early afternoon of July 28, the Second Battalion, Fourth Marines, on the left of the Third Battalion engaged in a heavy fire fight against an extensive enemy strongpoint. "I" Company received flanking fire from the left causing moderate casualties and the battalion's advance was slowed.

At 1600 the Third Battalion supported by two platoons of tanks moved rapidly forward over level ground through waist high brush. The few remaining enemy pillboxes were blasted by the tanks before their fire became effective. "I" and "K" Companies advanced 500 yards in thirty minutes to the old Marine Corps Rifle Range. The airfield was in plain sight 300 yards to the front. All organized enemy defenses had been overcome.

Marine Corps Divisions in World War II, Their Commanding Generals and the Campaigns in Which They Have Participated:

★ ★ ★

FIRST MARINE DIVISION

MAJOR GENERAL A. A. VANDEGRIFT, U.S.M.C., Commanding.	Guadalcanal, B.S.I., August 7, 1942 to December 9, 1942.

SECOND MARINE DIVISION

BRIGADIER GENERAL ALPHONSE DE CARRE, U.S.M.C., Assistant Division Commander, Commanding.	Guadalcanal, B.S.I., January 5, 1943 to February 9, 1943.

THIRD MARINE DIVISION

MAJOR GENERAL ALLEN H. TURNAGE, U.S.M.C., Commanding.	Bougainville, B.S.I., November 1, 1943 to December 15, 1943.

SECOND MARINE DIVISION

MAJOR GENERAL JULIAN C. SMITH, U.S.M.C., Commanding.	Tarawa Atoll, Gilbert Islands, November 20, 1943 to November 24, 1943.

FIRST MARINE DIVISION

MAJOR GENERAL WILLIAM A. RUPERTUS, U.S.M.C., Commanding.	Cape Gloucester, New Britain, December 26, 1943 to April 28, 1944.

FOURTH MARINE DIVISION

MAJOR GENERAL HARRY SCHMIDT, U.S.M.C., Commanding.	Kwajalein Atoll, Marshall Islands, February 1, 1944 to February 9, 1944.

SECOND MARINE DIVISION

MAJOR GENERAL THOMAS E. WATSON, U.S.M.C., Commanding.	Saipan, Marianas Islands, June 14, 1944 to July 8, 1944.

FOURTH MARINE DIVISION

MAJOR GENERAL HARRY SCHMIDT, U.S.M.C., Commanding.	Saipan, Marianas Islands, June 14, 1944 to July 8, 1944.

THIRD MARINE DIVISION

MAJOR GENERAL ALLEN H. TURNAGE, U.S.M.C., Commanding.	Guam, Marianas Islands, July 20, 1944 to August 9, 1944.

SECOND MARINE DIVISION

MAJOR GENERAL THOMAS E. WATSON, U.S.M.C., Commanding.	Tinian, Marianas Islands, July 24, 1944 to July 31, 1944.

FOURTH MARINE DIVISION

MAJOR GENERAL CLIFTON B. CATES, U.S.M.C., Commanding.	Tinian, Marianas Islands, July 24, 1944 to July 31, 1944.

FIRST MARINE DIVISION

MAJOR GENERAL WILLIAM H. RUPERTUS, U.S.M.C., Commanding.	Peleliu, Palau Islands, September 14, 1944 to September 30, 1944.

Japanese Civilians in Combat Zones

How the Saipan military situation was complicated by Japanese noncombatants.

By 1st Lieutenant Lewis Meyers

WE KNEW Saipan wouldn't be much like the Marshalls. We were prepared for the enemy artillery and mortar fire, for the ridges and ravines, the cliffs and caves, the cane fields and houses. We were ready for anything the Japs could offer. All except the babies—we never expected them.

Those infants, and their brothers and sisters and parents and grandparents, were all over Saipan. We knew we would find thousands of civilians beyond the beaches. But we did not count on meeting them in the midst of battle, especially the little children. And nobody was prepared for their ultimate actions, which were unlike anything any civilians have done in this war.

The non-combatant civilian is as old as battle. On Namur in the Marshall Islands our company dug out an aged and tiny couple several days after the shooting stopped. But there the only problem was in making the old woman understand we wanted to carry her on a litter, not have her carry us.

The Marianas invasion was the first time the Marine and the Japanese civilian faced each other by the thousands. The unexpected actions of the non-combatants at times affected the military situation on Saipan. They can be a problem of increasing size on all future operations in the Pacific. Civilians always foul things up in combat, if they are anywhere near it. In 1940, the Germans even took tactical advantage of their presence by strafing the refugee-choked roads of France to make monstrous road-blocks. The past year, United Nations forces have handled masses of civilians in the advance on Germany. But never has the problem been the same as that of the Japanese civilian or even of the neutral civilian in Japanese territory.

Japanese Psychology in Action

The difference is due to the nature of the Pacific enemy—the Jap. On Saipan his psychology and ways of thinking were made even more horribly apparent. Has any European mother huddled her four children around her and then with a grenade blown all five into a grotesque pattern of death? On Saipan this happened a few yards in front of our troops. In other theatres have grandmothers kept whole groups holed up in caves dying of thirst, to avoid American capture? Have fathers led their families into the sea to drown or thrown them over cliffs? Hundreds of Saipan civilians killed themselves rather than walk a few feet to safety in our lines. They ignored the pleas of others already captured, though often the prisoners could be seen eating and drinking behind our lines.

Scenes of Horror on the Beach

The civilian problem reached its insane and incredible peak at Marpi Point, the northern tip of Saipan and the last scene of Japanese resistance. There the sea meets the island at a nightmare beach of huge jagged rocks, overlooked by a 200-foot cliff. Two platoons of our company, supported by a platoon of engineers, spent a day moving along that beach toward Marpi Point. We had been attacking for most of the preceding three weeks and had seen our share of horror. Yet the events of this day shocked us. That is the only word for it. No one, from our captain, a Raider veteran of Tulagi and Edson's "Bloody Ridge," to our youngest rifleman, could do more than swear in rage and disgust and amazement at the end of that day. Other companies had similar experiences around Marpi Point.

We advanced that morning with one platoon

War victims such as this sad little Jap boy affect the most battle-hardened of Marines.

It was a terrible thirst for water that caused many civilians to surrender, and the Marines shared their supplies of water with both Chamorro and Jap families.

on the beach and the other extending inland through the underbrush and trees to the base of the cliff. The engineers followed the right flank platoon to deal with the caves that pockmarked the face of the cliff. I was with the beach platoon which consisted mostly of BAR men, but was reinforced by a pair of 60-mm mortars, plus the machinegun platoon leader and gunnery sergeant, and an observer from the 81-mm mortars. Most of these people were along because the beach, with its rockpile terrain, promised an interesting day. Also, we were glad to be near the sea again after weeks in the cane fields and along the rugged ridges.

There was some shooting right at the start. Fighting Japs were in some of the caves and for a while they seemed to be behind most of the nearest rocks on the beach. When it calmed down we had killed several and had rounded up the beginning of the day's prisoner pool. The pathetic families, Chamorro and Japanese, were herded out from among the rocks, some clutching cooking utensils and all crying for water. Before the day was half over our men had given away the contents of their canteens. Besides feeling sorry for these people, we were amazed at their ability to walk over the saw-toothed rocks in their bare feet. We were having trouble doing it with shoes, since both our feet and shoes had seen considerable service.

Our prize find was a sturdy Chamorro youth about fifteen years old whom we called Charley. As soon as he decided we weren't going to beat his brains out, he began pointing in several directions and explaining earnestly in Japanese. Catching a word or two we got the impression there were more people where Charley was pointing. We urged him to bring them in. Charley did, and roamed ahead of us the rest of the day beating the bushes and rocks like a veteran rabbit hound. He saved lives on both sides. First, however, he convinced us he had plenty of sense. He went off in the bushes and came back with a pair of shoes with inch-thick soles. Ignoring the gaze of the nearest Marines (the shoes were too small for them, anyway), he put on his treasured Jap boondockers and was ready to run around on the rocks.

Babies on the Beach

With all these preliminaries squared away, the 60-mm mortars fired several rounds up the beach and the two platoons started moving out abreast. Scattered among the rocks we found Japanese dead and dying. One soldier had hung himself from a rocky corner with a neckerchief. Their wounds came from our rifle and mortar fire and their own grenades. Strewn about the beach were the babies, tiny, naked, and dead. Some floating in pools seemingly had drowned.

Suicidal and bewildered Jap civilians, such as this mother and her children on Saipan, are a bitter foretaste of what is to come in Jap-populated territories.

As our advance started, two Jap soldiers about 300 yards up the beach began a scrambling retreat over the rocks. A couple of BAR bursts toppled them from sight. When we came up we found a sergeant and a private sprawled dead in a crevice. After our busy beginning on the beach, resistance was slight. Charley was bringing families in from their hiding places and our corpsman was busy among the growing crowd of prisoners. We were getting so many that an officer-interpreter from regiment came down from the cliff, accompanied by a skinny Korean, who in time became known to us as Joe.

Joe was a battered character with an arm in a sling and no shirt.

Jap Officers Control Civilians

All the time we were advancing we could see groups of civilians in the distance massing on a point several hundred yards ahead. This was not Marpi Point, which was still farther north, but was just a small, flat promontory about fifty yards in length. It was crowded with nearly a hundred Japs of all sizes and both sexes, including several men who kept aloof out on the seaward end. They looked like soldiers. There was no doubt as to the identity of another man who was standing behind a giant rock on the beach near the point. All hands recognized the helmet, belts, and uniform of a Jap officer. He seemed to be controlling the movement of the crowd behind him.

As we approached, the officer-interpreter with us kept calling and beckoning to the crowd of civilians ahead. None of them responded, but the officer behind the rock beckoned us toward him. There was a chance that he might have considerable firepower in the rocks around him, and we had no intention of walking into it. We stood fast and sent Joe, our Korean find, along the edge of the beach to contact the people on the point. We watched him pick his way over the rocks and reach the point. They crowded around him and after a little talking one of the men threw Joe into the ocean. We waited until he crawled out on the beach and came limping back. Then one of our BAR men, on order, squeezed off a short burst at the Jap officer who was just visible in back of the rock. The civilians were not in our line of fire and we decided a little shooting would bring on a showdown. It did.

The officer ducked across the beach and dove into the bush-covered rocks at the inner edge. Immediately, we began to receive rifle fire from that area. A few minutes later someone in the rocks and bushes blew himself up, and a helmet and assorted fragments flew through the air. Our right flank platoon was concealed by the trees and underbrush, so we let them work up toward the firing while we sat behind rocks. Joe,

Summarizing the Civilian Problem

That day's work on the rocky beach represents most aspects of the civilian problem in miniature. Summed up, those hapless families did the following:

They were in the way of our fire and movement.

They required troops to move them and medical corpsmen to take care of them.

They exhausted the water supply of the men.

In some cases, they resisted us by hostile acts.

They caused themselves needless suffering, sickness, and death by fleeing in front of our advance and hiding as long as possible.

Many of them, by self-destruction, added needless deaths to a bloody toll for the island.

Magnify all these many times and the civilian impact on the operation is apparent. The people of Saipan, by their own actions, greatly intensified the problem of handling a civilian population during an invasion. Similar results can be expected in future operations in Japanese territory.

the Korean, was back with us. He was dripping and cut up a little and somewhat downcast until the observer from the 81s questioned him about his seagoing travels. Joe had been to America and Australia, but the conversation bogged down when the observer tried to bring Poland into it.

Pistol Fire and Banzais

The rifle fire died out and we moved on toward the point. The people there were singing in unison as we closed in. Then, as a couple of Jap officers in the bushes and rocks opened fire with pistols and the BARs ripped back in reply, the crowd broke out a huge rising-sun banner and chanted banzais with upraised arms.

The final pocket of resistance was opposite the point. In a crevice covered with bushes were four soldiers, a young woman, and the inevitable children and babies. We had three of the soldiers and the woman standing up with their hands in the air. One surly soldier wore a beard and a long raincoat and we were getting him to remove the coat, figuring it might cover a belt of grenades. I was facing this man, the platoon sergeant was beyond the group, and a couple of automatic riflemen were covering the Japs. The sergeant saw the woman make a motion with one hand and the fourth soldier still cowering in the crevice threw something at the sergeant. It looked like a grenade, and we shot the soldiers before they could get back under cover. Luckily for the sergeant, the grenade was a rock which landed beside him. A few of our grenades accounted for the fourth soldier and we dragged out the woman, children, and babies. This stupid resistance was an indication of what was coming as we turned our attention to the point. After our elimination of that Jap officer we had managed to lure a few people from the crowd. Three boys had come out seeking water which we no longer had, then had returned to the point. A man or two had joined the prisoners we had piled up in two large groups on the beach. And now we began to get a trickle of families coming off the point.

Our men were strung out in a line, urging the prisoners on by waving and pointing. Left to themselves, they just squatted anywhere on the beach and it was a problem to keep them collected with our few men. Charley, the energetic Chamorro, was working in the bushes with the other platoon but Joe, the Korean, regained his nerve enough to get up on a rock and coax the families toward us. Water—"Mizu"—was all these people wanted. Meanwhile the officer-interpreter had gone back up to the top of the cliff where a loudspeaker was set up and his amplified pleas were being directed at the crowd on the point. Many of them were making the inevitable preparations of changing clothes, bathing in the pools among the rocks, and binding their heads.

Entire Families Attempt Suicide

The men out on the end of the point took the lead in these activities and soon were ready in G-strings and spotless headbands. Then the people began to jump into the sea. Whole families plunged off the point together, some of the women with babies strapped on their backs. The ocean

was dotted with black heads floating in the water, most of them swimming slowly around. For a few minutes the scene resembled a bathing beach on a busy holiday, until the heads began to disappear beneath the surface and did not come up again.

Mass Murder and Suicides

The point still was crowded with people, some of them leaving to join our prisoners, others just milling around. Then the men out on the end each tossed a grenade into the crowd and themselves jumped into the water. The screams of the wounded and dying mingled with fainter cries from some of those in the sea. Several of our men, including the captain who had come down to the point, were about fifty feet away from some of the grenades. But they obviously had not been the intended targets. Most of the people in the water drowned. A BAR man jumped in and pulled out three women who had changed their minds and were struggling against death in the sea. Some others swam ashore when we waved them in. But many had disappeared and the men and boys for the most part swam away from shore and gradually dropped from sight. Most of those on the point were wounded by the grenades and some of them died. When our water supply came up we gave the prisoners enough to enable them to move to the top of the cliff and start their journey to the rear.

That was one unit's encounter with civilians in one day. The same and worse happened to other outfits. A few days earlier one of our platoons cleaned out a rocky jungle hill where a Jap machinegun was in action. They found half-crazed drunken Jap soldiers cutting the throats of women and babies as the Marines moved in. Combat is no fun but few things are worse than the sight of a little girl gasping out her life through a slashed windpipe.

An Ordeal for Any Marine

That's one aspect of this civilian problem. The most hardened troops react to the sight of a yawning baby awaking on the back of its dead mother. Or of another big-eyed infant twisting its head around to follow the flight of one of our Grummans down the beach. Marines, many with children at home and pictures in their wallets, find it hard to fit these kids into the battle. Throwing grenades at Japs is what we're there for, but you hate to find babies in the same holes and caves from which the Japs have been firing.

It was obvious that the people of Saipan believed the Marines were slack-jawed maniacs eager to kick old men in the groin and batter babies to death against rocks. Too often it was plain that they thought any form of death better than falling into our hands. Such ideas, supported by the Japanese military treatment of civilians, cannot be overcome by standard methods.

Persuading civilians to give up took time; leading them to safety consumed more time.

The usual procedures were carried out at Saipan by the Americans but with little cooperation from the Japanese, either military or civilian. Leaflets fell on Saipan asking the commanding officer to set aside areas for civilians and to move them there. Throughout the operation, other leaflets showered from the sky before major advances, giving the people a safe route of approach and a time limit before the guns and planes went to work. Relatively few came in.

On the way out on the transports the assault troops were schooled in combat phrases in Japanese. This was the language of all Saipan. A few phrases were stressed for dealing with civilians. Our company tried to make every man glib in the use of three phrases: "Halt," "This way," and "Don't do that." Armed with these and their individual weapons, we thought they could handle civilians trying to surrender. These preparations paid off. But they were inadequate to meet so many non-combatants who were so frightened of Americans.

A big part of the answer came in the use of interpreters. The two officer-interpreters attached to our regiment did a tremendous job but they were too few. Their main assistance came from willing prisoners like Joe, the Korean, and Chamorro Charley. This was a common field expedient. Another outfit had a pair called Moe and Joe, who were immensely proud of their Marine

utility jackets with signs attached bearing their names.

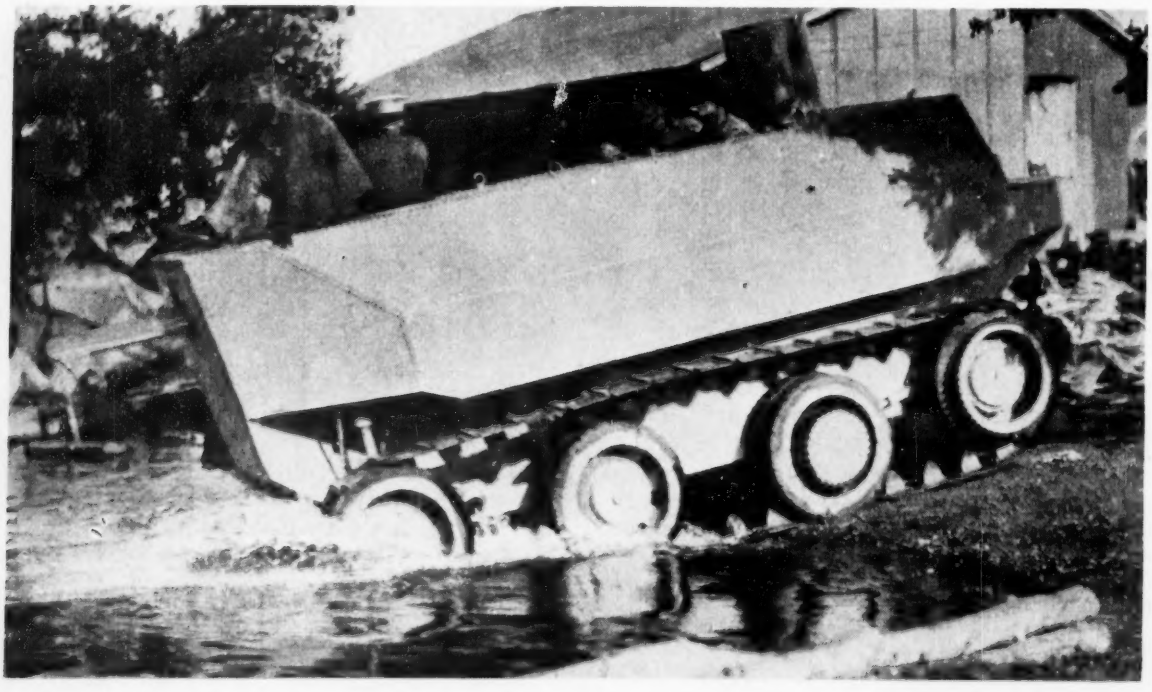
The only other available source of contact is found in the front-line troops themselves. There were always willing and fearless volunteers trying to talk civilians out of hot spots. Their big handicap was the language. A few mispronounced words yelled into a cave by a Marine holding a BAR at the ready are not very reassuring to people who already fear the worst. And if any response was made in Japanese, the amateur linguist was snowed.

Our regiment's answer to this is a school conducted by an officer-interpreter, carrying the combat phrase idea to its logical conclusion. Its aim is for each company to have a few men on the next operation who can speak and understand elementary Japanese. The men in the school are all volunteers and willingly make the mental effort involved. In the future, most of the civilians we meet should be hailed by a man who can make himself understood and who can give reassuring answers to usual questions. He will also bear some of the load of preliminary sorting and questioning of prisoners right on the spot.

Men with this limited valuable linguistic knowledge will help in training replacements. A little Jap chatter in the dark is a good thing to hear on problems and maneuvers. Our company used this idea on a limited scale during stateside training. This training of combat interpreters plus educating all the troops in the problem the civilians will present should eliminate at least some of the horror and misery of Saipan. No one wants to fight with women and children around. But they'll be around in Japanese territory. The Japs will see to that. It is our business to defeat the Japanese purpose in this respect, as in all others. Naturally, the babies will continue to ignore us. But we hope to persuade their parents to get them out of the way and let us get on with the war.

Marine Corps' First Amphtrac

The first amphtrac used by the Marine Corps was this vehicle designed and built by Walter Christie. It had a speed of twenty-five miles an hour on land, and could do about seven knots in the water. It was tested during fleet maneuvers in the Caribbean area in February and March, 1924, and was later given an official test near Hains Point, Washington, D. C., observed by Marine officers from Headquarters, and from Quantico. When in the water, it was driven by two propellers in the rear. Removable tracks permitted the vehicle to be driven on its wheels. A 75-mm gun was installed on this tractor, and was interchangeable with a 37-mm weapon.



Marine Aviation at Peleliu

Our Corsairs, by the deadly precision of their bombing, blasted the Japs out of their caves, then went on to handle other missions of almost equal importance. ***By Capt. Donald A. Stauffer***

THE Japs expected us to hit Koror, their main town in the Palaus, using the same tactics that we had employed at Guam. They were, therefore, surprised when we made our D-day September 15th landings on Peleliu, a pocket-sized island about twenty miles to the south, just large enough for a good airfield with two runways at right angles in the form of a cross. A few days of bitter fighting found the airfield completely ours and being improved, and the Japs pushed back into the hills just north of the airfield. This line of hills extends for three miles, the backbone of the island along its northwest shore. Originally, the hills were coral reefs under the sea, pushed up by some prehistoric volcanic upheaval. South of them is a flat area just large enough for an excellent airdrome. To the east, the island sinks off into a bog of mangrove trees and half submerged islets. The limestone hills formed the most difficult and savage terrain that the First Marine Division, and later the 81st Army Division, had ever encountered in all their fighting. After more than two months of determined attacks, ingenious new plans, and unremitting artillery and infantry pressure, the Japs still held out in small pockets and deep underground in innumerable caves, harder to eradicate than termites from an old house.

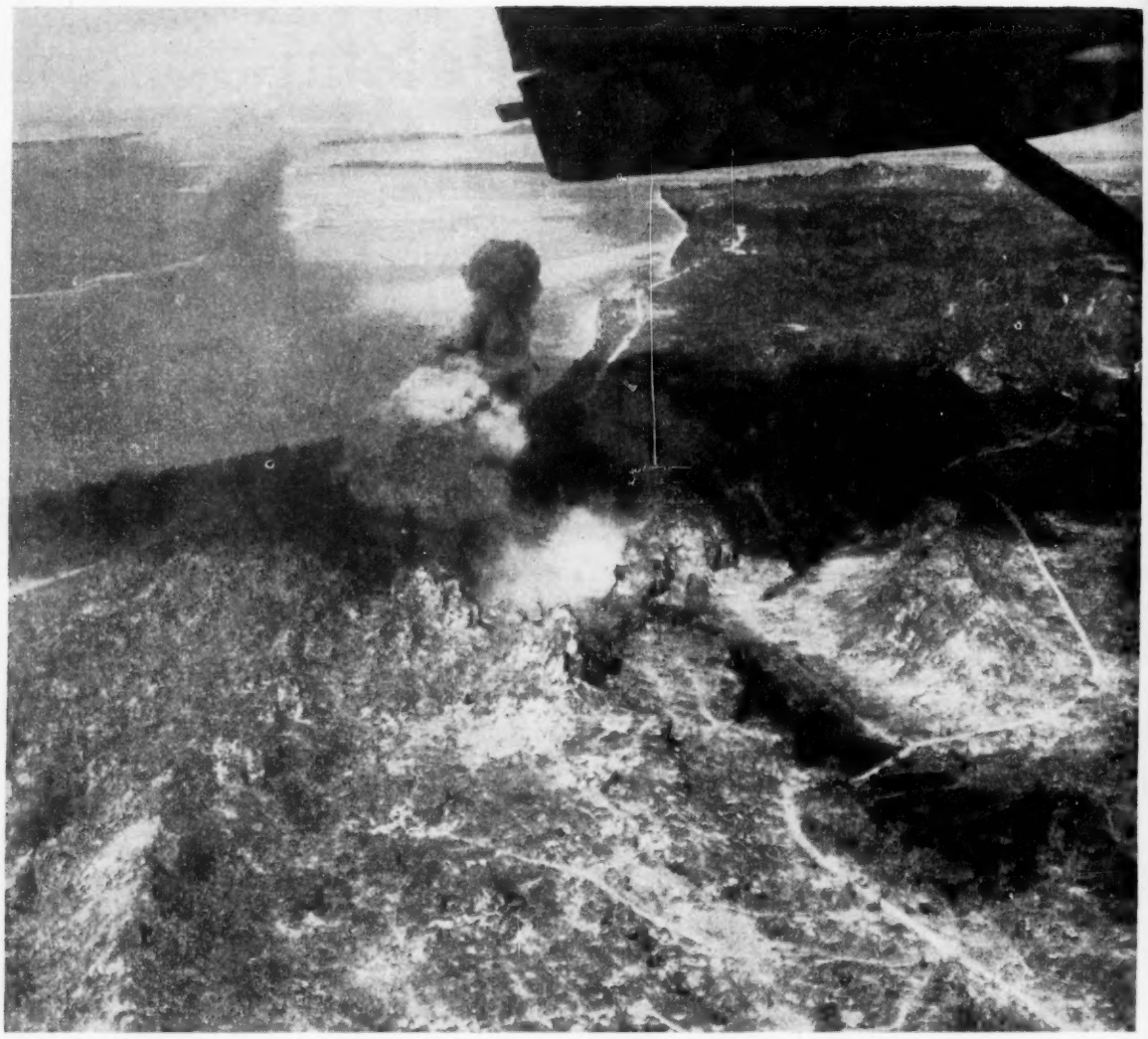
The Japs Fight From Their Caves

The hills are at their ugliest and most menacing within a half mile to one mile north of the airstrip. It was here that the Japs finally holed in and resisted all attempts at dislodgment. They lived in deep and winding caves on both sides of the limestone coulees or steep-walled valley that came to be called Big Slot and the Little Slot. The entrances to these numerous caves were sometimes almost invisible even from the ground, starting under the roots of the tangled jungle trees, or camouflaged to look like slant-eyed gopher holes. If an attack was made on either Slot from one side alone, Japs on the opposite and flanking sides could concentrate their fire on the attackers. If simultaneous attempt at envelopment was begun, the positions were so constricted that crossfire became dangerous. Even if bulldozers had been able to go in against enemy fire, they could not have scaled the cliffs to seal up the cave entrances. Moreover, the caves were supposedly connected by underground tunnels.

Dynamiting all the 200-foot hills, filling the caves with seawater, flooding the valley with gasoline, rolling in gas drums, making a tank attack (the tanks would have had to be mountain goats), naval gunfire in addition to our heavy guns—all manner of assaults, ranging from the sound to the fantastic, were suggested. These positions near Umurbrogol Mountain, well referred to as Bloody Nose Ridge or Dante's Inferno, were a defender's dream. There were no easy answers. But, after two months of fighting, as of this writing, the remaining Japs are lying low. They are no longer emerging for large scale attacks, but are whittled down nightly as they come down to the water hole or try to carry messages from cave to cave and are discovered by our flares. And, for the reduction of the enemy from a serious, constant menace to a minor annoyance, the squadrons operating under Major General Moore's Second Marine Aircraft Wing were in part responsible. Their tactics changed through various phases:

(1) On September 29, fifteen days after the initial landing, four Corsairs tried steep-angle glide-bombing with half-ton eggs against these positions. It worked well enough so that early the next morning other Corsairs dropped bombs. Hits were scored, some of which were registered near the cave entrances. Dummy runs preceding the actual dropping of the bombs increased the accuracy. Moreover, the last five runs were so well

Bombers blasting at Bloody Nose Ridge shook this Marine-held airstrip on Peleliu.



Smoke from aerial bombs rises above Little Slot at Bloody Nose Ridge, where Japs held out for weeks in caves that defied all methods of offensive strategy.

coordinated with the ground forces that the planes in the air were given instructions from the ground Command Post to aid in dropping their bombs accurately. From the ground command it was learned that the bombing was considered excellent. Precision was necessary, for our own forces were separated from the target only by a narrow ridge. One favorable result of the bombing is hard to assess: the boost to the morale of the ground troops. After two weeks of the most relentless and exhausting fighting, any American Marine or Army infantryman was ready to cheer when the Corsairs swooped over and let loose their thousand-pound explosions on the Japs.

(2) During the first third of October, Marine Corsairs perfected tree-top drops into the Little Slot, which the Japs infested most heavily, bore-sighting their approaches across certain blasted trees or jagged crags of the Five Sisters as they swung in a little west of south. These runs probably established something new in the way of a record for short missions. Fifteen seconds after they passed nearest to the field control tower, and within minutes of their briefing in the ready tent, the Corsair pilots let their bombs go. The resulting explosions could be heard and felt in the camp areas of the Marine air units.

Results of Aerial Bombardment

(3) On October 12, Marine aviation on Peleliu gave the Nips a good taste of aerial bombing. This bombing was no child's play, however. One bomb could not be released, in spite of three hours of maneuvering. The pilot was finally instructed to bail out over the water. The last words he heard over the interphone from one of his squadron mates were: "Now, chum, in case you have any questions, don't ask them. You're a Marine,

Vegetation was burned out and eventually the Japs, whose caves on this slope are pounded by Marine artillerymen as an observation plane marks the targets.

and, besides, it doesn't matter what condition the chute is in, the water's soft down there." The pilot bailed out, floated down, and hit the water successfully, and, although he was zoomed by his own plane and approached by two curious sharks, he was picked up by a destroyer and put ashore within an hour of his jump. Here we see the Navy helping aviation after aviation had tried to help—indeed, *did* help—the line troops. This aerial bombing procedure, incidentally, became routine for the rest of October. The Nips really were getting it.

The results of this aerial bombing may be added up to:

1. Boosting the morale of our ground troops.
2. Keeping the enemy in their holes.
3. Killing many Japs outside during attacks; any who ran out of caves during the attack were shot by our troops.
4. Destroying the heavy vegetation which had afforded such excellent cover for enemy snipers. The infantry were particularly grateful for these clearings, which would otherwise have been impossible to make in thick jungle. When the trees had been blasted off to the limestone, there was no longer the threat that a Jap bullet might come from every branch and twisted bole and hanging liana vine. This alone probably saved many American lives and speeded up our advance.

Example of Air-Ground Support

5. Helping to shorten the Japanese perimeter. It is worth noting that, during the final bombing stages, units of the Army's 81st Division seized four of the Five Brothers, which was one of the few remaining Japanese strongholds, set up sandbag defenses four layers deep on their narrow peaks and hogbacks, and held onto these positions.

This bombing of the Jap-held Slot affords an excellent, classic example of air-ground support over an extended period of time and in a small area. But Marine Aviation at Peleliu did very effective work against an enemy equally deadly and sneakish as the Jap—the dreaded dengue fever. From low flying special Avenger planes, they liberally sprayed the area with the extraordinary new insecticide DDT, anathema to all dengue-carrying mosquitoes. In contrast to the enemy's experience, our dengue fever hazard was minimized. The first run with DDT was made from the Peleliu field on D plus 10.

Supporting Ngesebus Landing

On D plus 13, Marine Corsairs from Peleliu airstrip bombed the little island of Ngesebus, immediately to the north of Peleliu. The Japs had constructed an airstrip on Ngesebus, which the fighters hit with bombs. They followed the bombing by strafing, encountering only light AA and starting three fires, possibly small fuel dumps. This highly successful strafing and bombing was in support of the equally successful landing on Ngesebus by units of the First Marine Division. It was notable, also, as the first support of a Marine landing and beachhead by Marine aviation since Bougainville. It would seem, on the record, to rate a few encores.

When Peleliu was first taken, it was the furthest and most exposed point in our Central Pacific spearhead toward the Philippines. The dangers of counterattacks from the air were minimized by the destruction of Jap planes in the Philippines by Admiral Halsey's Third Fleet. But Jap air-raids, particularly at night, remained a constant threat. Marine night-fighting Hellcats were thrown in to ward off such raids. The first of these planes arrived on D plus 9, September 24, and began operating same night. The air warning units, plus the constant patrols of fighters by day and by night, held Jap air attacks to small token or nuisance raids. Usually the single raiders did not even approach close enough for AA fire or for interception, and sometimes even dropped their bombs at sea before retiring. But as the Jap ground position became desperate, they attempted one night in late October to drop hand grenades by parachute to the surrounded enemy. They were unsuccessful, and our forces picked up the grenades to be sent to Pearl Harbor for the experts to study.

On the last of October they tried again. This time they dropped propaganda sheets addressed to our troops, suggesting that the U. S. Fleet had again been sunk in the Philippine battles and that our forces on Peleliu would soon be annihilated by the Japanese. Somewhere they must have made a slight error. As for the Jake that dropped the propaganda sheet, it never lived to tell the tale. It was pursued by one of our Hellcoats, and picked up by searchlights that held it in the beam as it came down toward the Jap pocket. Within full view of the entire command, as it banked to escape, the Marine night-fighter poured a barrage into him. The Nip returned the fire from his tail gun to no avail; the six guns of the night fighter finished the Jap. A Landing Craft Infantry (LCI) on patrol a few miles to the north confirmed the kill when it saw the Japanese aircraft crash in flames into the water.

Peleliu has no harbor. When a bad storm blew up early in October, ship to shore movements became almost impossible. Our wounded could not be transported to the hospital ships off shore. Supplies for the island could not be landed. Here again aviation furnished the ground forces with needed support. In this emergency, and whenever similar conditions occurred, the bulky and dependable Commandos took off with ambulatory and litter cases, flew the evacuees a thousand miles to clean beds and baths, and returned, through line squalls and tropical fronts, with much needed rations.

Aerial Photos Disclose Targets

It is always a good thing to know what the enemy is doing, and photos will show it. Army photoplanes and Navy photo interpreters at Peleliu, for instance, did fine work. Two Jakes were spotted close to the shore of a little island south of Babelthuap. Within a matter of hours Marine Corsairs had strafed, bombed, burned, and destroyed them. Again, an interpreter looked at a photo brought back by the Lightning pilots and became suspicious of two little islands near shore. Before he had finished with his interpretation, he had identified two large Jap vessels beautifully camouflaged. The planes went up on strikes, and when the smoke cleared away, the 200-foot vessel was holed and over on its side for good, and the other vessel, a destroyer, had sunk to the bottom of the Pacific.

What is the conclusion? Simply that air, sea, and land forces work together. One cannot function at top efficiency without the help of the others. At Peleliu, Marine aviation of the Second Wing gave ground and sea forces support in special bombings of the enemy, in sanitary protection by spraying insecticide, in keeping harassing Jap planes from damaging our installations or killing our personnel, in furnishing close strafing and bombing support for a beachhead, in evacuating the wounded, in bringing in supplies, in spotting enemy threats by means of photos, and in erasing dangerous targets by immediate and effective air attacks.

Jungle Patrolling—2

In his second and concluding article on jungle patrols, the author describes the execution of missions. In this vitally important work, common sense and military judgment are essential. ***By Major Guy Richards***

EVERY combat platoon leader or company commander is a potential patrol leader, and in the Pacific, such an officer must be prepared to lead his group on jungle patrol.

Experience in the Pacific has proved that most patrols are organized hastily. Constant preparedness is the primary patrol rule of the officer and a patrol mission may begin at any moment of his twenty-four hour day. He must bear in mind always the possibility of patrol duty. And he must act accordingly. Whether his command is in reserve, at rest, or in the forward lines, his troops must be ready.

In a static situation, a battalion's reserve company is called upon for patrol personnel. But under tense conditions, any available troops are called upon for reconnaissance or combat patrol missions. The latter may be little more than extensions of combat activity carried out by forward troops. Long range, independent jungle patrols arise ordinarily from a static condition in the area and during lulls in the fire fight. It is then that the officer takes his troops on a few days' patrol which may, being resupplied by air, by sea, or by native carrier, be extended by higher echelon for several weeks.

Organizing for Long Range Patrols

Leaders of the most successful patrols have been officers who can organize their force speedily, gather and distribute the information from above, and shove off. In a combat area, the officer cannot afford to pass up a single opportunity to repair and refurbish his unit's ability to make a long range patrol.

If patrol duty assignment finds you with any man or men improperly equipped or physically unprepared, you must attempt immediately to remedy the situation. If the man cannot be equipped properly in the short time you will have, he must be left behind. No one suffering from any malady or deficiency can be permitted to accompany your patrol. Such a man either will have to be sent back with escorts or carriers, or, if he cannot be sent back, your entire patrol will be governed by that man's incapacity.

When an officer is ordered on patrol, he can expect his higher command to give him a definite and specific mission, clearly limited to time and territory. If his orders are not clear to him personally, he must clarify them to his own satisfaction and dispel all haziness as to his duties. Higher command also will furnish such information as the size, composition and equipment of his patrol and any specialists or observers who are to accompany it. Instructions also will be given as to terrain conditions, enemy dispositions, position of friendly troops, other patrols, reports to be furnished, and areas to be avoided.

Speed in Preparation Is Essential

The patrol leader's time in this situation will be at a premium and his duties will be many. From the information furnished him, he makes a map study and attempts to consult the intelligence officer. Men selected for the patrol must be notified and informed of the equipment to be taken. Junior leaders and non-commissioned officers are instructed and, if special weapons, equipment, and clothing are to be needed, the patrol leader obtains and distributes these items along with the necessary rations. Through his operations officers, plans for his patrol are coordinated with those of other patrol leaders operating in the same area. If time permits, a reconnaissance is made.

Only in a minority of instances, the officer must remember, will there be time for unhurried briefing and planning. Reviewing the manifold details of getting a patrol underway, the officer easily can see why patrol leaders have had to train themselves for rapid movement. In the Pacific, most patrol leaders have received their orders between 1200 and 2300 of the previous day. Original orders are subject to changes and additions which necessitate additional equipment or more personnel. Last minute additions of air, naval, or civil affairs officers have a habit of arriving in the middle of the night, without water, rations, and ammunition, to go on your patrol. Communications' breakdowns may occur, further complicating the task of obtaining and distributing information about enemy dispositions or other patrol units, and the supplying of enough field rations for your swelling force.

Concerning these outside persons who are to take part in your patrol, remember that each change and addition means immediate attention to the line of march. New arrivals sent by higher echelon present a new problem in march discipline. Each addition must be questioned and indoctrinated with your marching rules. If you doubt the ability of any of these people to accompany your patrol without hampering its work, notify your

higher echelon immediately. Higher echelon has a tendency to believe some persons can be helpful when, in effect, they are more trouble than they are worth. But higher echelon also is disposed to let a patrol leader run his own show. If you take the initiative quickly in this matter, you can save yourself later intolerable difficulties.

In placing this group of additions in your line of march, native guides or scouts may be included in the point, under some circumstances. Generally, however, the natives are better off close to the patrol leader in the main body. Other heterogeneous newcomers should be placed toward the end of the main body and split up and separated by at least one file of your regular troops.

Questions You Must Answer

With the coming of daylight, you are on your way.

Now, constant alertness becomes the task of you and your command. You probably will be going into new territory. The precise nature of the terrain, the enemy's past activity and present situation in it, are before you. No footprint, trail, old gun emplacement, foxhole, or shelter is too unimportant to investigate for intelligence. Ask yourself constantly: What was the enemy doing here? When was he doing it? Why was he doing it?

You now are the advance agent for your combat team. Higher echelon has had to speculate about enemy activity and details of terrain. The true situation is revealed directly before you. You must determine what size vehicles, if any, can use a trail. Location of road surfacing materials such as gravel, volcanic ash, shale, and chalk should be marked, as well as timber for the construction of corduroy roads. Good artillery locations, and the attainability of these areas, should be noted. Estimates of the time needed to provide roads for supply or space for artillery prime movers should be made.

It is an excellent idea to appoint a pacemaker-recorder team of two men, possibly your two runners, to assist you in recording and orienting this information. One of these men can keep an accurate tally by paces of your distance from the front lines. The other can record all items you notice, orienting them by the number of paces out from the front lines.

When Delays Are Permissible

Both combat and reconnaissance patrols always are interested in information, the difference being only in emphasis and degree. Most missions, limited as they are in time, allow for the delays involved in the search for such information, and the gathering of it, and the subject should be drilled into your men incessantly.

In a bivouac area, the enemy has generously sprinkled his information everywhere. Explore the ground around hastily evacuated CPs. Hundreds of American lives have been saved, and sometimes weeks of fighting, by the quick exploitation of intelligence found in this manner by patrols.

Scout Roads from Intersections

Constantly bear in mind that this is territory in which the enemy may have been living eighteen months or a lifetime. His proved cunning at camouflage, deception, and concealment has taught us to expect surprises. For instance, if he thinks we know of certain trails and roads, he may have built new ones. It is important that these roads, which lead to his front lines, his dumps, and his command posts, be sought out. If such a road parallels your present trail, your flank guards should follow the course, but remain off the enemy's road. If such a road traverses your present road, scouts should reconnoiter the enemy's roads from 300 to 500 yards from intersections with your trail.

It might be noted here that one of the enemy's chief media for supplies is the two-wheel handcart. To accommodate these handcarts, which require at least three feet for one-way traffic, the Japanese have gone to great trouble to survey and construct roads, partially on old routes and trails, and partially off. Where the grade of the old course is too steep, new gently-sloped detours are created.

Which Trail Should You Take?

Since such roads should be reconnoitered thoroughly, you frequently will face the question, as your patrol advances, of deciding along which side of a fork you should continue, and of how much time and emphasis should be devoted to a particular side trail or bivouac.

The answer to such dilemmas must be sought in the specific orders and limitations of your mission. Combat patrols, with the prime objective of seeking out and destroying an enemy force, and reconnaissance patrols, with a prime objective of gathering information, have certain areas of over-lappage which may lead to confusion. Reconnaissance patrols, even if ordered to avoid combat, may easily contact the enemy and be forced to engage him in order to defend themselves. Conversely, combat patrols in pursuit of their mission to seek out and destroy may never properly ignore available information.

Common sense and military judgment must be invoked in searching through the definition of your mission for a guide to each new decision. For example, if you have been ordered to "proceed 4,000 yards on the trail leading northeast

from approximately 30.15—167.40, gather all information on enemy activities, avoid contact, and return by sundown," you already have received clarifying limitations on distance, direction, and time to be employed.

Aid to a Decision

Supposing, however, that under these orders you have started out on the trail leading northeast from approximately 30.15—167.40 and have come to a fork about 800 yards out. Both sides of the fork appear equally sizeable and important. Neither leads northeast. One leads north, the other east. Which one will you choose?

This matter might have been settled back at your CP if you had asked your commander whether, in such an eventuality, it was the trail he wanted explored or the direction, i.e., northeast. Whatever his answer, you should send out elements to explore both sides of the fork from 300 to 500 yards. In such circumstances, it is best to give scouting elements limiting points in time, say twenty to thirty minutes. Possibly, further along, one of the trails will settle back in a northeast azimuth. That would aid your decision. Possibly, the side of the fork turning farther from the northeast would nevertheless reveal heavier and heavier signs of the enemy. That also would aid your decision.

Your commander may have explained that it was not the trail, but the northeast direction and the terrain therein included that he wanted reconnoitered. In that case, you explore both sides of the fork as indicated, but continue on the northeast azimuth, trail or no trail. Due to the meandering nature of trails, most commanders will specify in their orders whether it is the trail or the azimuth they want patrolled. If it is not specified, however, it is best to get this point straightened out beforehand.

Use Natives as Guides Only

In solving problems such as the patrol leader constantly faces, he also should remember how much weight can be attached to information supplied by local natives and guides. Their information should be received very skeptically. Experience has shown that the Japs have been most successful in keeping the natives away from their interior lines, defenses in depth, and even in considerable ignorance of their coast installations and airdrome installations. Native Quislings also are employed to spread false information. Natives, no matter how unquestioned their loyalty, should be employed primarily as guides—as persons who can show you how to get from one known place to another known place, irrespective of enemy activity or absence of enemy activity. The remainder of the information they offer should be noted carefully, but never accepted as true, or even partially true, until verified.

To take another typical instance, a combat patrol might be ordered to "Find and destroy an enemy radar station believed to be in the neighborhood of 12.70—85.00, on a cliff overlooking a curve in the west bank of the Laza River. It is believed to be protected by a small infantry force with one or more light machineguns. Return on completion of mission, but not later than 1800, 8 September."

Clearly, it now is up to the patrol commander to get his force to the locality indicated in the most practical route possible. He will pick such trails as will suit his mission and his equipment. He may even avoid trails, wherever practical, to afford surprise. The information he is most interested in obtaining pertains to his mission's objective.

To take another typical problem, suppose that along the trail you come upon signs of a field piece having been dragged off the trail recently. You send scouts to follow the trail up to 500 yards. Upon their return, your scouts report that the tracks swing 100 yards beyond you into another trail, at right angles to your present ones, and that there is increasing evidence of very recent enemy activity. The answer to the question of whether you should follow up this important lead, which takes you far from the course of your mission, or continue on your way, again is found in the directive for your mission. If it is a reconnaissance mission ordered to confine itself to terrain from which the recently discovered activity is clearly leading further away, you continue on your original mission. But if it is a combat patrol mission ordered to seek out and destroy a force which is likely to be the very force whose traces you have discovered, but leading to a different location, you follow the signs and traces, seek out and destroy the force.

In both cases, however, your decision calls for additional immediate notification of higher echelon. Use portable radio, message dog, or runner —preferably two or three methods—and insure that this urgent intelligence is delivered quickly.

As to this matter of communication, incidentally, your common sense and military judgment must be alert in discerning, when you acquire it, information of such importance that its immediate relay is absolutely mandatory. The radio must be used with the utmost reserve and your commanding officer will decide beforehand the conditions under which its use is justified by a patrol. Often, artillery observation planes can be used to establish two-way radio contact, if your portable radio is weak. Such planes also have proved useful in arranging for emergency drops of ammunition and rations.

Common sense and caution also must be exer-

cised when you believe you have found an enemy force. Beware of jumping to the conclusion that the enemy has been reached if, for instance, your point dog should make a contact. Although you see figures coming at a distance from enemy territory, do not order your troops to fire. Remember that Japanese and Marine troops bear a close resemblance at a distance, particularly in rainy weather. It may have been impossible to inform your patrol of the presence of friendly patrols or friendly natives in that vicinity. Or it may be a lost friendly patrol. Dispose your forces, but hold your fire. When enemy contact has been established beyond a doubt, then act in accordance with the direction of your mission.

In conclusion, the junior officer should remember that a jungle patrol is a wholly absorbing project presenting many difficulties, but opening the way to many achievements. It offers the junior officer a rare opportunity to establish his resourcefulness in a position of independent command. Discovery of men in his outfit who have a natural flair for scouting and a native ability for patrolling will assist him. Such men may be, as they have often proven to be in the past, old time hunters and outdoorsmen from farms in Texas, Tennessee, the plains states and the Pacific Northwest. These Marines take unmitigated delight in jungle patrols. When properly developed and led, they have pulled the Marine Corps through some tough spots.

Seek such men out and appoint a patrol-minded non-commissioned officer to nourish their interest and syphon it into the whole platoon or company, with competitions in cover and concealment, fire team reconnaissance, field sketching, endurance marches, and the like.

Marine Corps traditions were built from small unit operations. Some of its greatest achievements have been those of platoons and companies that were, in fact, nothing more or less than jungle patrols. If the junior officer does not forget this, his men never will.

Early Model Landing Craft

In the course of experiments conducted by the Marine Corps and the Bureau of Ships to develop landing barges, tank lighters, and cargo carriers, the craft shown below was built in 1923 and used at Culebra. It was known as the "beetle boat," and was made of steel with an armored top. Two 125-horsepower Hall-Scott engines powered the twenty-two ton craft, and it was large enough to carry a 75-mm gun, a small tractor, and a loaded caisson. It was also equipped with a conning tower with side ports for the coxswain. As a troop carrier, its capacity was 125 men, and, because of its low freeboard aft, it could carry seventy-five men safely in a fairly rough sea. Men and materials could be discharged from a ramp in front, which could be let down after opening the hinged front door. From the knowledge gained from experimentation with the "beetle boat" came the tank lighter, then the LCT, the LST, and other ships of that type, including the ramp-bow Higgins boat.

The Handling of Supplies at Guam

Close behind the assault battalions, Shore Party teams landed on Guam to move supplies. They were often disturbed but never stopped by Jap attacks. ***By Capt. Edwin H. Klein***

AT ABOUT 1030 on July 21, 1944—two hours after the first wave of Buffaloes had hit the beach—the forward echelon of the Fifth Field Depot splashed ashore at Guam. They looked around, then went to work. Initially, the officers and men, numbering about 1,000, were attached to the First Provisional Marine Brigade and the Third Marine Division. The Brigade Shore Party teams landed with the Fourth and 22nd Marines on White and Yellow Beaches just south of Agat, while Company B landed with the Third Marines on Red Beach near Asan. The assault battalions had barely cleared the beaches and started moving inland before supplies began coming in: rations, fuel, ammunition, water, medical supplies, and the rest of the necessary impedimenta of modern amphibious war.

Under their respective Shore Party commanders, these Fifth Field Shore Party teams, along with other service and pioneer units, had the mission of landing supplies over the shelflike coral reef jutting from one-quarter to one-half mile out from the beaches. At low tide, this reef was barely covered; at high tide there was as much as four feet of water—and it could be rough.

Shore Parties Face Little Fire

To men working waist deep in water, the almost total lack of enemy artillery and the complete absence of enemy aircraft was literally a life-saver. In fact, the chief enemy interference was from isolated strong points and snipers, with occasional sporadic mortar and light artillery fire. One strong point, a fortified coral ridge separating White from Yellow Beach, had a 75-mm gun the first morning, which accounted for seventeen amphtracs.

Pontoon barges brought in lashed to the sides of Landing Ship Tanks (LSTs) were anchored just off the reef's edge to act as landing platforms for the incoming gear. Each barge had its permanently assigned working party, and handled just one type of cargo. LVTs were dispatched from the Shore Party Command Posts for the needed supplies, and, after loading, proceeded to the proper dump or organization—in some cases this meant straight to the front lines. Fuel drums were dropped from the landing craft at the reef's edge and floated in by wading Marines. This was an effective system, but rough on the handlers, who soon developed painful coral cuts and salt water sores.

In most cases, the surf was too deep to permit vehicles to come in under their own power; therefore, they were snaked across the reef by tractors, with resulting submersion in sea water. Two Transport Company men did an outstanding job in handling their TD-18 caterpillar tractor, which they landed at 0900 D-day morning on White Beach. In spite of enemy fire, they kept it going, dragging vehicles and equipment ashore, for three days. By the third day, it was the only piece of heavy equipment operating of those landed early.

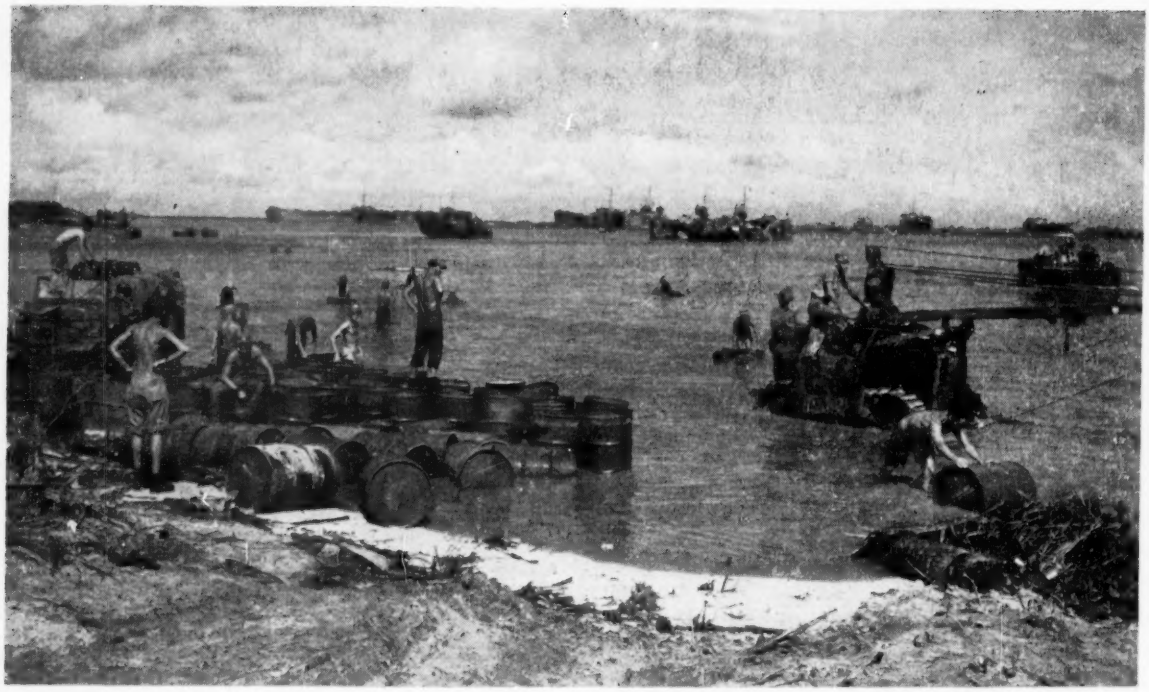
Veterans of Other Landings

Handling supplies under fire on beachheads wasn't new to the bulk of the Fifth Field Depot personnel. As Branch Three, Fourth Base Depot, detachments had landed at Vella LaVella, Puruata, and Treasury Islands in the Bougainville operation. Later a detail of ammo handlers had gone along with the Fourth Marines on what turned out to be the bloodless conquest of Emirau Island, off the Jap base of Kavieng, New Ireland. Circumstances were different this time. Gone were the continuous bombing raids probing for American supply installations. Here the principal threat was close-in infantry action.

In addition to working the beaches and sometimes furnishing carrying parties, stretcher bearers, and wiring parties, the Depot had more than a fleeting glimpse of ground warfare. Units were used tactically in sectors of the beachhead perimeter defenses. Besides this, combat and security patrols were regularly employed.

Night Work Draws Sniper Fire

The sharpest action occured just before dawn the first night on White Beach. All night long, First Lieutenant Stephen E. Powell, one-time Maine forest ranger, and his platoon had been issuing ammunition to Brigade troops and artillery. More often than not, it was necessary to check the type of ammunition with a flashlight. For instance, packing cases of 81-mm mortar and 75-mm pack howitzer shells are virtually indistinguishable in the dark. Practically every time a light was used it drew sniper fire. Then, toward morning, after an intermittent and ineffective mortar barrage, a Jap demolition party cracked



Marines at Guam float drums of gasoline over coral to the water's edge as tank lighters and alligators bring other supplies from the LSTs in the background.

the line with the evident hope of destroying the amunition dump. Lieutenant Powell and Gunnery Sergeant John J. Duffy quickly organized their platoon and routed the enemy with a counted total of fourteen dead. It had been too much work landing and sorting the ammunition to allow the Nips to blow it up.

Objective—Orote Airfield

Focal point of the converging Brigade and Division forces was Orote, a curved finger of land projecting from the middle of the western coast and forming one side of the horseshoe shaped Apra Harbor. This was the location of the village of Sumay, the prewar Marine barracks, the cable station, the Pan-American pier, and hotel. Major objective on the peninsula was Orote Airfield, painstakingly built by the Japs with Chamorro labor. Sharp infighting, chiefly by the Fourth and 22nd Marines, was closely supported by terrific barrages by General del Valle's Corps' Artillery, probably the most concentrated ever fired by Marine guns.*

Lines of communication and supply were short. From the beach to the supply points and front flowed a steady stream of supplies and equipment. At no time in the operation was there a critical shortage of any item.

When the Marines finally took Orote Airfield, it was a shell pocked desert, littered with the skeletons of hundreds of destroyed Nip planes. Then came the Second Marine Separate Engineers with their trucks, 'dozers, rooters, graders, and rollers. In six hours, the airfield was functioning. In short order land-based Marine fighter squadrons were cruising the sky for prospective victims, but air contacts were few.

After Orote was taken, and the Brigade and Division forces, along with the Army's 77th Division, were joined, the fighting moved north, above Agana to Barrigada and Mount St. Rosa. Supply points moved north with the troops.

July 28, the Depot pulled together its scattered parts and reorganized as a unit under the command of Lieutenant Colonel Walter A. Churchill. Released from Brigade and Division control, the Depot was now part of the Third Corps Service Group. Also along in an advisory capacity were Colonels Andrew E. Creesy and Kenneth A. Inman, observers from Supply Service.

Long before the operation had begun, the Depot had been assigned a string of prospective dump sites totaling more than 600 acres. But, in spite of the exhaustive map and aerial photographic preliminary studies and the long prewar occupancy of the island by Marine and Naval forces, most of the areas assigned proved to be suitable for rice cultivation and not much else.

The best site allocated had been the scene of a bloody tank and infantry battle a day or so before

*In his article, "Massed Fires on Guam," in the December, 1944, issue of the GAZETTE, Brig. General P. A. del Valle tells how artillery was used in taking the island.

the Depot moved in. The mines and duds were more dangerous, but rather less annoying than the millions of flies and the all-pervading smell of the Japanese dead. In cleaning up the area, Depot burial parties buried nearly a thousand Nips, mostly in an area well under a hundred acres.

On the 29th, the Depot second echelon landed with much needed equipment and more men. Now the Depot was the source of supply for all the Marine units on the island, and was furnishing rations, fuel, ammunition, and other supplies to Navy and Army units as well.

Clashes with small Jap parties and snipers continued to be almost nightly occurrences in most of the camps. Typical was a running gunfight in true Wild West style in which First Sergeant Harvey Horton shot his Jap between the eyes with his .38.

When an enemy patrol attacked an outlying ammunition dump about midnight August 5, the resulting fire fight ignited a stack of 155-mm powder charges. Corporal John S. Reed and Private First Class John S. Brom extinguished the fire, averting the probable loss of the whole dump by throwing the burning charges off the stacks, while offering sharply silhouetted targets to continuous enemy rifle fire.

After August 10, when the island was officially declared secured, the Jap effort was less organized, but the Depot's scattered ammunition and ration dumps continued to act as magnets for the hungry and beaten remnants. Fifty-two Japs were finally officially reported as killed, and a handful captured.

On August 20, the third and last echelon arrived, and by the end of the month the Depot had a semi-permanent 1,000-man camp, as well as five smaller camps for outlying companies and sections. The Engineer Company had the distinction of drilling the first successful well since the reoccupation, giving a good and practically unlimited water supply. As sanitation and living conditions improved, the incidence of dengue and dysentery, chief banes of the operation, declined.

At the conclusion of the operation, the following official appreciation of services was received from the then Brigadier General Lemuel C. Shepherd:

"Upon detachment from the 1st Provisional Marine Brigade, I wish to express to the officers and men of your command my sincere appreciation for the excellent performance of duty during the current operation.

"The efficient manner in which the loading of your command and their establishment ashore on Guam was conducted, is deserving of praise. I particularly wish to commend your officers and men for their untiring work as labor parties during the unloading ashore. Their expeditious handling of supplies aided greatly the progress of the assault troops inland, and was in keeping with the traditions of the Marine Corps."

The letter drew one major objection from the men. "Labor parties!" they snorted. "Might as well call us noncombatants."

Marine General's Flags Greet Americans in France

While the Americans and Germans were still fighting for the village of Vence, in the Maritime Alps of France, they were surprised to see the flags of the United States, Britain, and France, together with the pennant of a Marine General, broken out above a villa on a nearby hilltop. When the area was cleared of Germans they learned the story. The flags were the handiwork of Brig. General William Glasgow Powell, and his wife. When the Germans invaded France, the General was unable to leave because of illness. He was about to be taken to an infirmary, and his wife to a concentration camp, when Italy collapsed. Learning that American troops were approaching, General Powell, while bedfast, sewed an American flag with thirteen stars and stripes, a British Union Jack, a French Tricolor, and a Marine General's pennant with one star. For materials he used his wife's pajamas, which were blue, red house draperies, and white bed sheets. When the Americans were fighting their way up the hill the old General arose from bed, climbed upon the roof of the Villa Camille and planted the flags where they could be seen by our steadily advancing troops.

Airborne Troops and Equipment

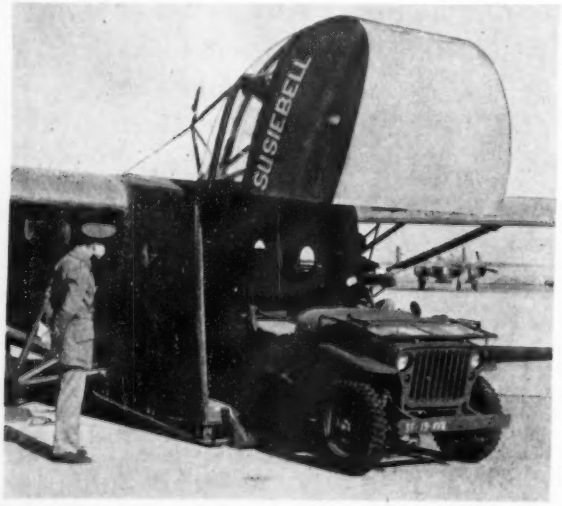
The development of new planes and gliders will probably expand airborne warfare, the value of which already has been proven.

By 2nd Lt. Gordon J. Lawler, USAAF

EARLY in January, 1942, five transports and six battered single motored planes flew a wavering course from the besieged Philippines to Java and finally landed in Australia. These tattered airplanes and the men who flew them were the first combat beginnings of the now famous Troop Carrier Command.

Allied forces were fighting a last ditch battle against the Japs in the Netherlands East Indies and the old B-17s, AG-30s, Beechcrafts, and Dutch Line DC-3s were immediately dispatched with supplies and men to front line areas. Operations from January to July, 1942, totaled more than 5,000,000 miles. After being organized under several commands for brief periods, the two squadrons built from the Philippine veterans were designated as the 21st and 22nd squadrons and joined the Troop Carrier Command on July 26, 1942.

On May 22, the 21st squadron made its first operational flight in New Guinea, carrying troops and supplies to Wau and Bulolo using Allied mountain airdromes previously used only for very light aircraft. The 21st and 22nd squadrons operated for months in this region despite intense Japanese activity and fighter cover that consisted of only five or six P-39s. When the Japanese landed troops at Buna in July, 21st Squadron planes landed Australian reinforcements and supplies at Kokoda. During the fighting for that mountain airdrome, the planes often circled the field without knowing whether it was in friendly or enemy hands. In August, 1942, during the Australian retreat near Port Moresby, these early TCC Squadrons dropped tons of supplies and equipment to the troops that eventually stopped the Japs.



Nose of Waco CG-4 opens to discharge cargo.

Early Operations of TCC Groups

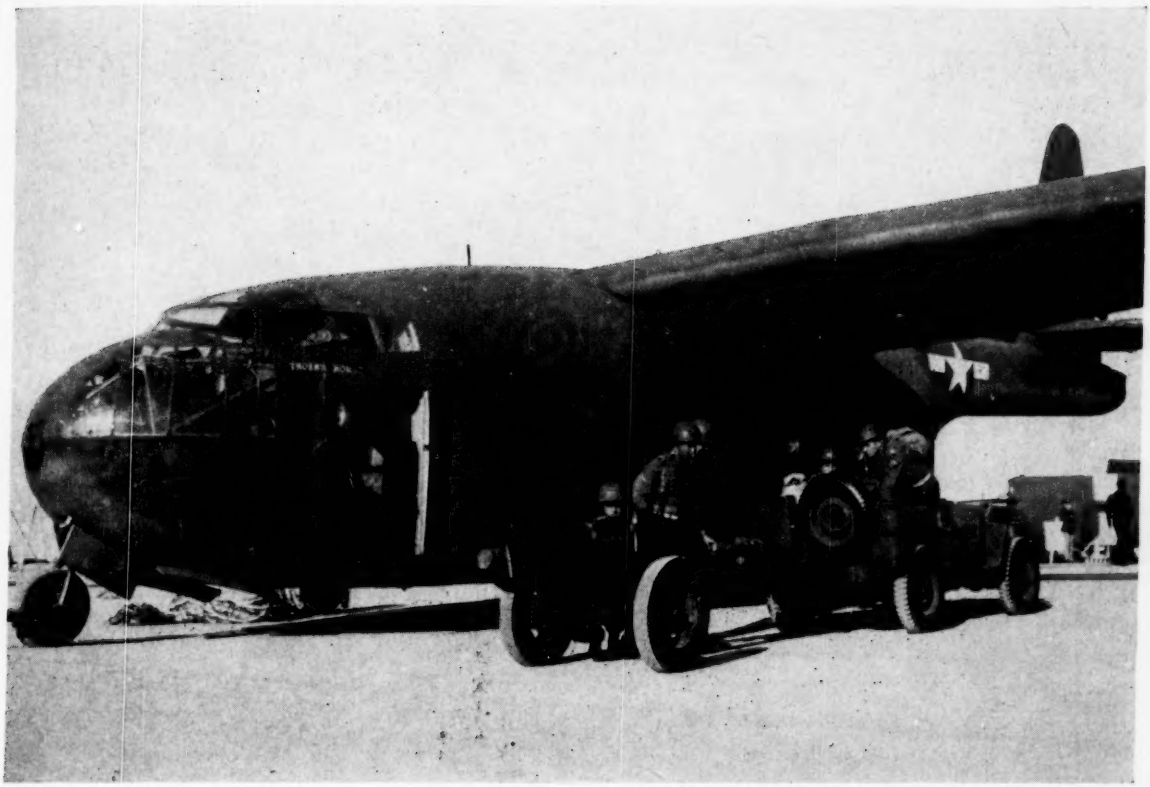
During the middle of October, a concentrated drive was made from Milne Bay and Port Moresby for the final Allied drive on Buna. Three regiments of the 32nd United States Division had been flown in in September and the newly arrived Sixth TCC Squadron began making trips to Moresby the day after they landed. When the 33rd Squadron flew in, they arrived just in time to participate in the final assault on Buna.

On the 12th of November, 1942, the 37th Troop Carrier Group was activated, with Lt. Colonel Erickson S. Nichols as its first Commanding Officer. The 6th, 21st, 22nd, and 33rd Squadrons were assigned to this now celebrated Group distinguished for receiving two Presidential Citations.

Officially the TCC was activated on April 30, 1942, with command headquarters at Stout Field, an Indiana National Guard base turned over to the AAF. The Command was given to Colonel Fred S. Borum (now Brig. General) who promptly formed a general staff largely composed of veterans of the Air Forces in the last war and pioneers in civilian aviation. Beginning slowly, the command gradually opened base after base with ten organizations functioning by the end of 1942.

Converted Airliners Go to War

Paced and inspired by the exciting combat reports from the South Pacific, the TCC's early training program was brief and concentrated on the basic tactical purpose of the command to fly ground troops supplied by the infantry into combat at the assigned point of attack. Pilots at TCC bases were trained to fly converted Douglas DC-3s often removed from regular airline runs. Produced in two versions for the army, the C-47 as it was designated in the AAF had a double door and a reinforced floor to accommodate a jeep, a 75-mm pack howitzer or anything of like size and weight. Another variation was the C-53 with a single door, a plywood floor and nothing heavier than two dozen paratroopers with normal equipment.



This glider, the CG-10A, is complete with instruments, retractable landing gear, full hydraulic system, and has a cargo-carrying capacity of about 11,000 pounds.

During the summer of 1942, CG-4A gliders arrived at TCC bases throughout the country. Use of gliders wasn't new. Germans had used them to maintain a fiction of disarmament and trained thousands of future Luftwaffe pilots for the present war. Later the Nazis hurled them down on Grecian soil to seize Crete and the control of the vital Mediterranean. The CG-4A provided the Troop Carrier Command with an auxiliary plane for crash landings on small fields. The passenger load was fifteen men and the glider was capable of carrying a jeep and 75 pack howitzers. Glider training stressed surprise landings at night in small fields, rapid unloading under fire, and the rough combat tactics that made the paratrooper feared and respected.

Critics of airborne movement in 1942 violently assailed the struggling Troop Carrier Command. Paratroopers dangling helplessly in the air and gliders whistling down out of the dark made many experts feel the TCC was merely a brief mistake in the AAF's history. Yet in the end as the Allies planned their first offensive in Europe the Troop Carrier was assigned to spearhead the invasion of Africa.

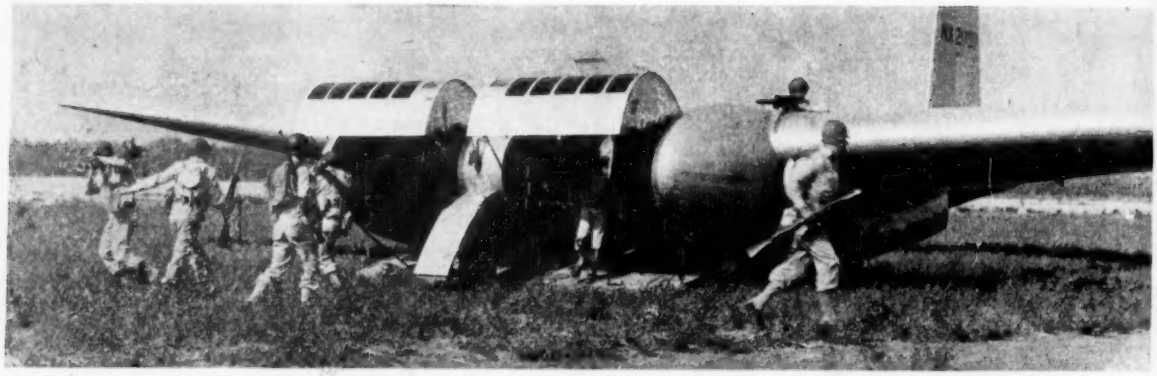
Fighting terrible weather, TCC units flew the Atlantic early in the fall of 1942. Preparation immediately began for the North African Campaign. In this operation, the first large scale Allied Airborne operation the TCC safely flew 1500 miles nonstop, the greatest mass flight in history, from Britain to Oran with the loss of only one plane and no lives lost. British paratroopers were dropped in Tunisia in the first combat operation of the TCC in the ETO.

Operating less than 300 feet over the dun-colored desert area, the C-47s of the TCC proved hard to see and harder to catch. On almost all missions during these early days TCC aircraft flew dangerous missions with only occasional fighter support. When pursuit planes were supplied, they frequently lost the C-47s due to their ability to melt into the landscape. TCC planes supplied the Eighth Army at El Alamein late in 1942 and continued to fly men and equipment until the final victory over the Germans in Africa in May, 1943.

Expanding to Global Proportions

Then in rapid succession came Troop Carrier participation in campaigns in Sicily, Alaska, India, and Guadalcanal.

Yet all these successful operations were merely preludes for the TCC's biggest year to come. During 1944 the planes of the Troop Carrier Command have ranged far and wide over every



Two loading hatches at the nose are characteristics of this CG-16A, which is being currently studied to determine the tactical limit in size of combat gliders.

part of the world carrying everything from water buffaloes to Christmas turkeys.

Strict Obedience to an Order

"To hell with paperwork, go out and fight," was the command of General Arnold, chief of the AAF, to Colonels Philip G. Cochran and John R. Alison that led to the brilliant TCC operations in Burma early in 1944.

And fight they did, following their whirlwind organization of the unique First Air Commando force flown by TCC planes. This force disrupted Jap operations far behind the lines in the Burmese jungle and gained tactical knowledge of incalculable value. The movement centered in Imphal and Myit-Kyina with gliders bearing troops and airborne engineers in the first assault force. Runways were cleared in twenty-four hours and C-47s began landing with more troops and supplies. Bases developed in Burma were desolate and marked only by elephant and water buffalo trails. The engineers worked in head-high grass and were frequently under Jap small arms fire.

During March, 1944, TCC units began leaflet and supply dropping operations to Greek patriots and Albanian and Yugoslav partisan forces. The veteran 60th Troop Carrier Group under Colonel Clarence J. Galligan was assigned the job when only a few allied missions were in the Balkans trying to organize the guerrillas into an effective fighting force. Marshall Tito, leader of the Yugoslav Partisans, had been recognized as the head of the Partisans most likely to cooperate with the Allies, but he needed all sorts of supplies.

The enemy solidly held the coastline, cities, main highways, and farmland, plus air superiority over the Balkans. It was therefore impossible to transport the supplies overland to the Partisans, or by water.

To each partisan group the Allies assigned a liaison officer who was to supply Allied headquarters in Italy with information on the needs of his group, location, the time supplies were expected, and the means of recognition to be used. In many cases, the Germans were dangerously near the DZ. Frequently a C-47 of the TCC would be met with a spray of fire as it circled for drops. As the supply dropping continued, the Partisans grew stronger and gained many new followers convinced by this demonstration of Allied power. More landing strips were opened every week and increasing numbers of planes landed each night with vital supplies.

Sometimes the worried Germans were successful in seizing landing strips from the Partisans. One such attempt was launched in May, just two hours after six planes of the 60th Group had left the strip. The Germans made a determined attack, using gliders, paratroopers, JU-52s, and armored columns. They eventually succeeded in taking the field for a brief period, but the battle raged on in the hills.

Allied bombers and fighters went to the assistance of the Partisan forces during the daylight hours and the TCC made allout night efforts to drop supplies to the guerrillas who had run to the hills leaving all their supplies and possessions behind. In addition, the 60th Group made seventeen landings in improvised fields in the sight of battle to supply Partisans and evacuate the wounded. The larger portion of Tito's forces were reequipped by the TCC and the airport was retaken.

Starting the Normandy Invasion

Soaring through the dark night on June 6, the gliders and C-47s of the IX Troop Carrier Command began the invasion of Fortress Europe that convinced even the most skeptical and airborne attack was now an essential phase of future military operations. The opening phase of the Normandy campaign was intrusted to the planes of the TCC and its CG-4A gliders. Months of planning resulted in one of the most successful airborne attacks in history. Many of the details of the Normandy campaign are still not revealed because

of future use in other theaters. The general details are these:

Beginning in the early hours of D-day planes and gliders began the trip across the channel over carefully prescribed routes nine miles wide and 200 miles long for a vast envelopment of the enemy. Gliders crashlanded over hundreds of Normandy fields spilling out trained combat troops that swiftly entrenched themselves and then moved out columns to join their comrades landing by sea.

Airborne Reinforcements in Quantity

The following day the immense task of reinforcing Allied troops with additional supplies and men was given to the Troop Carrier Command. Reinforcements on a scale dwarfing all previous operations of the TCC poured into the Normandy peninsula. Five great waves of gliders and their tow-planes, at one point forming a continuous skytrain fifty miles long, made the cross channel trip in a single operation that alone was greater than the airborne invasion of Crete by the Germans. In the House of Commons, Prime Minister Winston Churchill hailed the landings as the "outstanding feature of the invasion."

Every plane in the big fleet of C-47s that flew the first troops and equipment were painted with broad, zebra-like blue and white stripes and carried colored lights. This strategem prevented any repetition of an episode in the Sicily campaign, when TCC planes were accidentaly shot down by antiaircraft batteries of the Allies.

While the operation in France was large, the Troop Carrier participation in the Holland Airborne attack was bigger and stimulated thinking for the final blows against Germany and Japan. The Holland campaign for the TCC lasted ten days, filled with tremendous hope and courage. Elements of three airborne divisions—two United States and one British—were launched simultaneously on the first day, with resupply occupy-

These paratroopers, whose parachutes dot the countryside between Toulon and Cannes, were brought to their dropping zone by versatile C-47 transport planes.

The opening phase of the Normandy campaign was entrusted to troops carried in CG-4A gliders, shown here landing in clouds of dust outside LeMuy, France.

ing the remaining days of this crucial period.

The assignment at Arnhem revealed to both the United States Army Air Forces and the British Airborne Divisions that landings of paratroopers and light gliders were of military value only if ground forces could be rapidly brought up to support the air units. Conservatively, experts found that airborne troops could only last about thirty-six hours in the field without enemy encirclement and eventual destruction. Brig. General Harold L. Clark, Commanding General of the IX TCC, commented, after Arnhem, that he was now convinced that night landings by airborne forces were ineffective and much too costly in men and in equipment. He suggested that future operations should be in early daylight hours, and that larger gliders and planes should be used to bring in heavier ordnance and supplies.

Operations of Assault and Development

This suggestion was fundamental and will require great changes for the Troop Carrier Command in the months to come. Organized essentially as a striking and assault force, the TCC is now being assigned the development phase of combat. Brig. General William D. Old, Commanding General of the ITCC, and a veteran of the CBI, recently presented his interpretation of this new role of the Troop Carrier Command. The mission of the TCC has been divided into two merging operations, assault and development.

Surprise will always be a TCC fundamental. Future operations will call for the use of the C-47 and the CG-4A gliders in swift attacks in the early daylight hours. Paratroopers will land first to direct the planes and gliders. The gliders will carry airborne infantry and engineers equipped with miniature bulldozers, scrapers, and tractors. Protected by infantry, the important job will be the creation of a usable airstrip for the C-47s and other larger aircraft soon to arrive.

In the past, after gliders and paratroopers had landed, airborne operations usually halted and depended entirely on ground forces arriving and bringing in the real heavy weapons needed for solid entrenchment. Yet Arnhem showed that bad weather or changed combat conditions often made it impossible for the ground forces to join the airborne units. New airborne planning by the Troop Carrier Command promises that, after the initial assault, larger planes and gliders, many now in the experimental stage, will be brought in to consolidate and reinforce airborne forces.

The Army Air Forces have displayed a remarkable new plane, the first especially designed to carry cargo. Produced by Fairchild, the C-82 will be used by the Troop Carrier Command to bring heavy ordnance and motive equipment into front line areas. Designed to carry 90 per cent of the material needed by a standard infantry triangular division, the C-82 can successively carry a 155-mm field piece, an M-22 tank, an M-8 armored car or an M-16 antiaircraft gun. Loading is extremely easy. Trucks can unload

directly on a level with the plane's floor. Motive equipment is driven directly up a ramp into the plane intact. The Curtiss C-46 was displayed as a medium transport, larger than the C-47 but not quite so big as the C-82.

New gliders were shown that will supplement the development phase of airborne attacks. The CG-10A and the CG-16A gliders were drastically new. The CG-10A is complete with instruments, retractable landing gear, full hydraulic system, and a cargo carrying capacity of nearly 11,000 pounds. This glider has the largest cargo space of any glider in use today, and is able to carry the largest payload.

Ultramodern and resembling a P-38, the CG-16A glider carries streamlining into the glider field. This new glider features twin tail booms, two tricky loading hatches in the front, and a plexiglass blister for the pilot and copilot high in the center. The CG-16A is part of a current study to determine the tactical limit in size for a combat glider. Cargo capacity runs over 9,000 pounds.

Marines Developing Aerial Supply Techniques

Although the Paramarines officially ceased to exist on January 15, 1943, their training center at Camp Lejeune, North Carolina, was not abandoned. When Paramarine training was discontinued, the Parachute Test and Experimental Detachment came into being there. Former Paramarines are members of this detachment, which conducts experiments involving new techniques of aerial cargo delivery. Methods worked out by this detachment have been used on Bougainville, Saipan, and Tinian, in addition to other enemy-held bases.

These former Paramarines constantly are experimenting with their own ideas or those of ingenious inventors relating to the problems of ground supply from the air. A recently developed contrivance is the A-10 Aerial Delivery Cargo Container, a waterproof, bullet-shaped device which can be carried in the bomb bays of standard bombers or in the bomb shackles of other combat planes. This container now is standard equipment for both Marine and Army aerial delivery sections. Weighing about thirty pounds, it is made of paper, canvas, and a compound called Chemold, and can hold such essential supplies as mortars, machine guns, radios, water cans, and medical bottles.

New methods for delivering cargo by air are fully tested by former Paramarines.

Paper parachutes have been tested by the detachment. Special ways of packing supplies for free drops without chutes have been improvised whereby even fragile bottles can be dropped from 300 to 400 feet without breaking. The "Sky Hook," a rotary-wing cargo container in the shape of a maple seed which twirls slowly to the earth without benefit of chute or rigging, is among the new devices.

The Parachute Test and Experimental Detachment is a busy outfit. The twin 250-foot jump towers and other facilities originally built at Camp Lejeune for Paramarine training do not remain idle. Douglas R4Ds and B-25s from Cherry Point, North Carolina, fly overhead as they assist in the detachment's experiments. Viewing a demonstration of cargo drops at the center is part of the training given Marine officers at the Staff and Command School at Quantico. The equipment used to train Paramarines has been turned to solving the problem of supplying, from the air, men fighting in jungle terrain too thick to permit the passage of anything larger or heavier than a Marine with two hands and a rifle.—PFC. DICK BRECKER.

Military Value of War Diaries

Through accurate and detailed war diaries and action reports, the commander in the field supplies vital information that is nowhere else available. *By Capt. J. L. Zimmerman*

EVERY military activity has two purposes. One of these is clear and easily detected. The other, while no less definite, is sometimes obscure and not easily discernible. The first purpose, obviously, is to attain the immediate objective—an actual physical attainment in the case of a combat action, the reaching of a high degree of skill in the case of a program of training. The second is to provide material in the way of data for study to be used in planning comparable activities in the future.

In order that the full value may be got from every military activity, it is necessary to know two things: First, whether or not the objective was attained—whether, in combat, the hill was taken or the perimeter defended, or whether, in training, the hoped-for skill was attained by the trainee. Second, it is necessary to know how the success was obtained—in the course of combat, what tactics were used, whether or not the orthodox gave way to the unorthodox, upon what decisions the outcome of the action hinged, and the reasons for arriving at those decisions; in the case of training, whether the methods used were those of the textbook or the manual, or whether it was decided, for reason, to improvise, and what success attended that improvisation.

The Bases for Future Plans

The success of failure of a mission is a matter of record always. If an attack fails, or if a program of study falls short of its object, that fact is known from the records. The reasons for that success or that failure may or may not be known—indeed, it is more likely that they will be known in case of a failure than in case of a success. However, by the result, failure, or success, all facts pertinent to the result are important, for *they are the bases for future plans.* It is by no means enough to know that an attack failed or succeeded. If it resulted in failure, whatever the causes were they must be known; if a success, the need for knowing the causes is no less urgent.

In the writing of history, two courses of action are open to the writer. He can, when writing the history of any given action, present it as a chronological series of facts, a sort of calendar of the events which comprise the action. Work of this type is legitimate history, provided proper sources are used, and provided, also, that all statements of fact are supported by evidence. Such has been the pattern of most of the history that has been written to date.

As an alternative, using such a chronology as a framework, the writer can collect all pertinent details, every activity which had a bearing on the event, and, having collected them, evaluate them and place them in the proper spot in the framework.

The second course, if pursued with the same stipulations as are laid down for the first, will give a product of more value. The knowledge that a given event took place at a given time is valuable knowledge, within limits, and those limits are broadened in proportion to the amount of explanatory detail that is introduced which bears directly upon the event. It is necessary, if complete history is to be compiled, not only to know that an event occurred, but how and why it occurred.

Every new action, whether it be a patrol of a platoon or an amphibious operation at corps strength, exhibits some new technique, some new methods of meeting the immediate problem. These innovations are the results of training and learning, and their success or failure depends directly upon the quality of the training. If the quality of the training has been poor, it must be improved, and, in order that it may be improved, the results of the test must be known, and the reasons for those results.

The War Diary supplies a type of information nowhere else available, save at the cost of a tremendous amount of search. From the Diary, if it is properly prepared and submitted, it is possible to trace the location and activity of the unit preparing it, for each day or week of the period covered. The information thus obtained can be considered the skeleton or framework upon which is built the detailed study, in the case of the person who is interested in training, or the monograph, in the case of the writer of history.

Action Report No Less Important

The Action Report, on the other hand, supplies information of an entirely different, and no less important, kind. Where the War Diary is concerned with chronology, and with the day by day description of the location and activities of the unit, the Action Report deals in great detail with single actions. The two reports complement each other. Together, they afford a complete picture; separately, neither of them can present sufficient

details. In order that they may achieve their purpose, it is absolutely necessary that they be fully prepared and submitted in accordance with instructions.

The Historical Division at Headquarters, Marine Corps, is engaged in preparing a series of monographs dealing with the separate campaigns conducted by the Marines in the present war, the purpose of which is to provide a ready source of details for use in the future by whatever historian engages in writing a history of the Pacific War. These monographs, if they are to be dependable and valid, must be accurate and must have full details of all actions, no matter how small or how comparatively unimportant those actions may seem. Furthermore, it is necessary that full recognition and credit be given the units and their personnel, and this cannot be done unless the reports of the lower echelons—down as far as the battalions, at least, and preferably as far as the companies—are sent in.

Reports from Lower Echelon Units

In order that the details of each action be known as fully as is possible, it is necessary that reports be submitted from lower echelon units. The reason for this statement becomes apparent after a moment's thought. A company, let us say, engages in an action which also occupies the remainder of the regiment and the remainder of the division. At the conclusion of the action, the company commander submits his report. If he does a conscientious job, this report contains not merely a dry and factual statement of the result of the action—it contains a discerning analysis of the causes leading up to that result.

This report is submitted by him to the battalion commander, who uses it in the preparation of his own report, which, of necessity, cannot include all the details of the company reports. The battalion report is, in turn, submitted to the regiment, and a similar process takes place. As each level of command is passed, more and more of the details of smaller actions are necessarily omitted, until, when the final report is compiled and submitted, it is impossible to find more than mention, at most, of the individual acts of lower echelon groups and units.

Details Are Easily Lost

A shining example of the way in which details are lost occurs in the Action Reports and the War Diaries deals with one of our Pacific campaigns. An action took place and the Division War Diary entry for that period devotes four lines to a description of it, and mentions that three Raider Companies (unidentified) attacked approximately a battalion of enemy. No further mention is made either of the result or of the details of the fight. The Action Report of the same period devotes five lines to the same action, but leaves the identity of the troops completely in the dark. It is hard to recognize the action as the same one. It is still harder to reconcile these descriptions with the actual engagement.

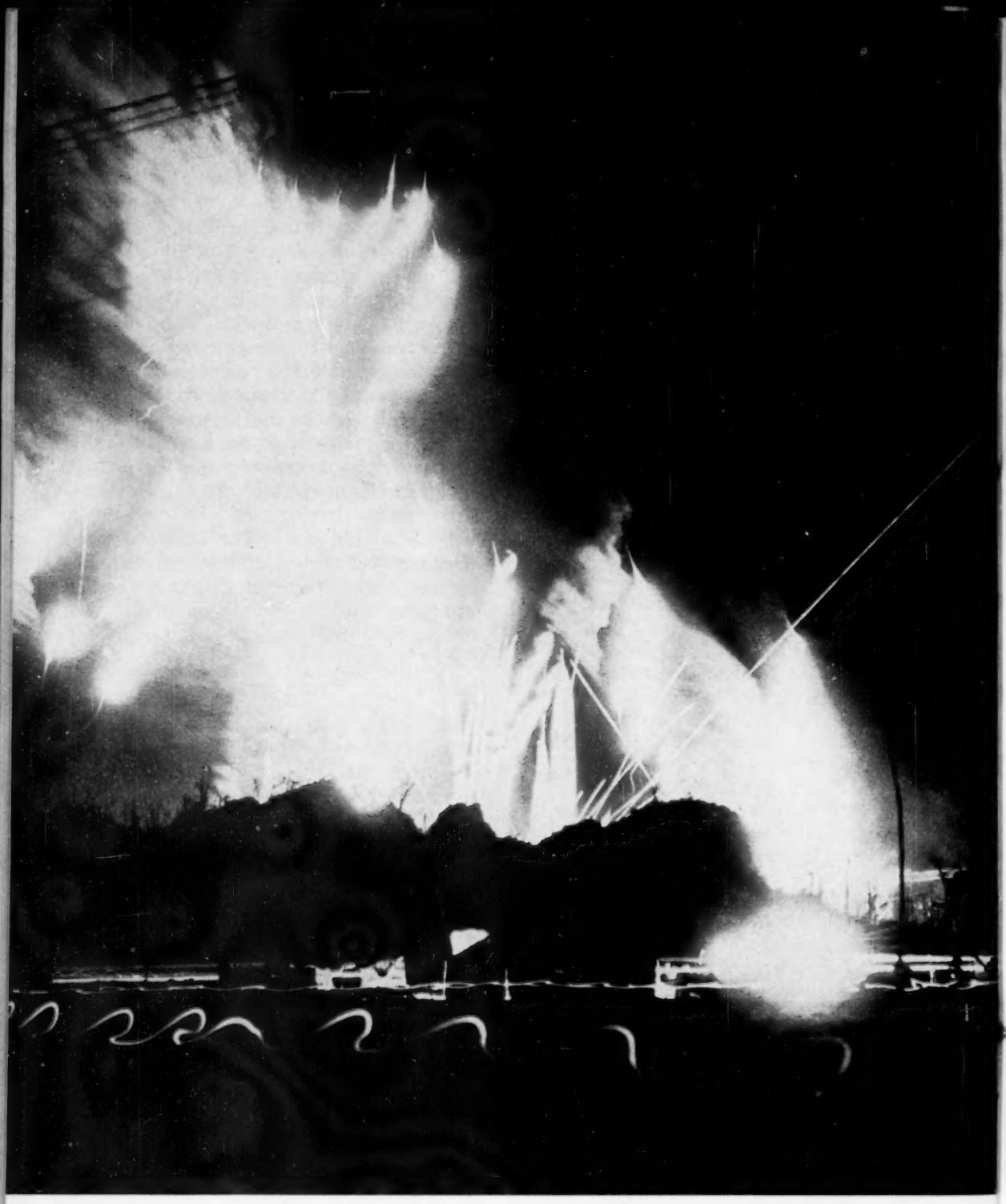
Certainly the enemy is well aware of the value of war diaries. The following brigade order of the German 102d Reserve Infantry Brigade, issued in October, 1918, is interesting in this respect:

"The high importance of future war-historical records makes it the duty of all officers, immediately after the termination of combat activities, to work up the war diaries so diligently that the graphic descriptions, the inspection and perusal of material upon which final compilations are based, and the establishment of lists, shall be completed before new troops are employed in the sectors in question. The fresher the impression, the better and more dependable will be the presentation. . . .

"Save everything. Save every scrap of paper that is seemingly unimportant, every notice, every word, even the most insignificant-looking piece of paper as long as it has even a remote bearing upon the phases of combat. During combat activities, the staffs will at all times, whenever a favorable opportunity offers itself, send all reports, orders, sketches and the like, to the rear when they are no longer needed at the front. Otherwise, much valuable material will be lost; moreover, they are an unnecessary burden."

Historical Division

The Historical Division at Headquarters, U. S. Marine Corps, has several functions. It maintains historical archives—a depository for all material of historical value after that material is no longer valuable from an administrative standpoint. It handles correspondence on historical matters. It is responsible for research on historical material pertaining to the Marine Corps, and compiles information from every available source. Officers of the Division are engaged in preparing monographs describing in detail specific actions of the current war. Staff officers of the Division of Plans and Policies, and other Headquarters activities engaged in special studies, consult the Division's archives for information.



Double Feature

Tracer bullets and star shells over Peleliu's Bloody Nose Ridge are an attraction secondary to a movie screen at right, where jeep headlights and the curving line of a Marine's flashlight are headed.

Training of Marine Instructors

To speed the training of Marines, a new method of teaching is being used at Camp Pendleton, where instructors are taught "a pattern of success." ***By Major Irvin F. Upshaw***

> "It is *not* our purpose or intent to impart any technical or tactical knowledge. Technical or tactical instruction received during the course will merely serve as a refresher. Our aim is to teach the best *method* of instructing vital subjects, whether it be by lecture, group performance, or demonstration." — Letter to Headquarters.

IN San Onofre Canyon, twenty-odd miles north of the Ranch House at Camp Pendleton, rows of new Quonset huts are pointed out by a sign which announces briefly, "Tent Camp No. 2, Infantry Schools Battalion." Of the work accomplished at this site, the battalion bulletin says, "The purpose of this school is to train instructors. Students will be so informed. Technical information disseminated will be complete and correct, but will be for the purpose of demonstrating methods of instruction."

This school to instruct instructors arose from the need forged by the chain of circumstances linked to the present war. From 1920 to 1941, the technical training of Marines was given by Marine Corps personnel and, in the opinion of the writer, was the very best. Certainly, the very best results were obtained. The methods were simple. Generally, a blanket was spread on the deck, a weapon brought in, torn down, and the parts named over and over again. If it took nine months for the facts about the .30 caliber rifle to sink into the minds of some of the men, there was no argument about that amount of time being used. In those days, a first sergeant could instruct without the pressure of time, as ordinarily his detachment was engaged in peacetime duties. Time was available for even the densest recruit to obtain a complete knowledge of weapons and nomenclature. Also, the weapons in use were not numerous. Other than machineguns, infantrymen were concerned only with the BAR, the tommy gun, the rifle, and the pistol.

The present war has seen a great increase in the number of weapons which have been included in the organic arms of infantry combat teams. The rocket is a very good example of this, being an entirely new weapon. All methods for training infantry personnel to handle this weapon had to be developed from the ground up. In addition, there is the flame thrower, a weapon experimented with in World War I but developed in World War II. The bolt action rifle has been supplanted by two automatic rifles, and there are many new types of grenades where, before, Marines had only to be concerned with the one fragmentation type.

As there was no backlog of experienced personnel to pass on information gained from personal experience regarding these weapons, officers and NCOs had to be given intensive and specialized training to equip them as instructors. Large numbers of untrained personnel had to be whipped into fighting shape, and the quicker this could be accomplished, the fewer the lives that would be lost. An acute need for a standard of instruction became urgent, and fate placed a time limit on all educational plans.

A Change of Method Was Needed

Intelligent men searched for the answer to this problem of schooling experienced Marines speedily and correctly so they could provide proper instruction to newer men. A complete grasp of the new variety of weapons and tactics was demanded, of course, but it was believed that the character of the teacher and the methods of instruction also had to change. Troop leaders were to be given a new perspective and skill in transferring their understanding to the new men. By accepting a group of NCOs of a certain level of ability and understanding, it was assumed their backgrounds would give them the capability of responding to instruction if it was presented simply and effectively. If they were given some idea of the way to prepare and present their material, they could fill in the gaps of knowledge later when time permitted. We had to be certain that everyone conformed to the plans devised for this schooling. It was impossible to depend upon chance, as troops would have to be brought out on a planned schedule. Therefore, the Infantry Schools Battalion was established under the Training Command at Camp Pendleton.

Old timers may not have stood out in the teaching profession as models of scientific skill. They were very good, however, in preparing their men for field work and making them understand their weapons. Our new technique of teaching varied from their methods only because the time element

and the enormous growth in size of the Corps made it necessary.

Under this new method, we did not specify that the instructors-to-be commit everything we said to their memories, nor that they had to memorize all the nomenclature. But we did specify that they watch the instructor closely and memorize the way he taught the subject. In classes, it was actually necessary to become dogmatic about the methods to be used, and the teaching formula did not allow them to veer in any direction of their own choosing. To illustrate this necessity, one man with a fine, persuasive speaking voice might reveal a disinclination to dig out the needed facts for a lecture; or, another man self-conscious and lacking in good voice, might endeavor to plod conscientiously but dully over his material. Because of the necessity for mass production, no individual could be permitted to leave the teaching formula's pattern.

A standard plan was devised for lesson presentation in keeping with the need for over-all conformity and coverage of a topic. The steps of instruction as detailed in the lesson plan included:

(1) Subject.

(2) Aids used in the preparation of presenting the subject.

(3) Actual steps of presentation, subdivided to include instruction, demonstration, application by the students, examination, and discussion.

We realize that this arbitrary use of a form might not be the best way to put a subject across, but under the circumstances, as the speaker had a reasonable hold on the class, a good percentage of over-all efficiency was anticipated. Whether he was a good speaker or not, the instructor would have a pattern of success that would enable him to get specified results. The new instructor's poise and stature would grow with each application in front of the class, and his skill would increase with each effort.

In actual practice in classrooms at the Infantry Schools, students learn the value of clear delivery, of anticipating questions and answering them in their well-prepared lectures, and of numerous other little techniques as minute as where a speaker stands on the platform. Students criticize each other's lecturing technique, and the officer in charge is at hand to bring out added points, such as the value of personal anecdotes to heighten interest in a subject.

This method of training instructors has increased the confidence and articulateness of the experienced men of the Marine Corps who must become the founts of knowledge for new personnel. Its success can be seen in the classrooms at Tent Camp No. 2, where the old time sergeant's informal, but thorough, methods have been revised to keep in step with modern demands.

Practice Makes Instructors

By Captain William M. Parks

PROSPECTIVE instructors at the Infantry School Battalion of the Training Command at Camp Pendleton undergo a period of indoctrination that lasts approximately eight weeks. This eight weeks is divided into three periods. The first four weeks are taken up with preparing and producing demonstrations. The second period covers work on supervising the practice of teaching by noncommissioned officers. In the third period, officers actually participate, as platoon leaders and company commanders, in the activities of a battalion of recruits.

During the first period of instruction, concerned with preparing and applying demonstrations, the class is broken up into groups of fifteen student officers with an instructor in charge of each group. This group might be called a class in education. However, it is not an educational course like those taught in college. Instead, it combines the ideas and thoughts of the young officers on how to teach infantry subjects most effectively. They must be able to put on demonstrations covering different subjects necessary in the tactical training of the individual Marine—the fire team, the squad, musketry, and the platoon. Over the four weeks' period, these subjects are all studied and demonstrations on each are developed by the class.

If the newly adopted fire team is the subject, the instructor explains how to make up demonstrations of the fire team, to cover personnel, equipment and organization, extended order, and formations. Included are the fire team as the point of an advanced guard; the fire team as a combat patrol; and the fire team as scouts. On the subject of the fire team, discussion resolves on how best to put on a demonstration for recruits, showing its personnel, equipment and organization. Definite points are considered, such as how best to show the equipment of the fire team, and the best way to impress the recruits with the organization of the fire team. At the

conclusion of a full day's discussion about the fire team, the young officers are ready to prepare their demonstration.

The next half day is spent reconnoitering for a place to present the demonstrations. The instructor points out such considerations as terrain which will permit a good observation point for the audience, separation from outside distractions, positions from which observers will not be looking into the sun, and other points which will make it easier for the audience to receive the maximum benefit of the demonstrations. Following the selection of the terrain for all demonstrations, the lesson plan is written by the student officers.

Outline Form Needed for Class

In writing the lesson plan, a detailed outline form is used such as the one in TM 21-250, pages twenty-nine and thirty. These lesson plans are of great benefit, and very seldom, if ever, can a good class be conducted without their use. The class is given eight hours in which to prepare lesson plans for all demonstrations and to study this presentation.

Having reviewed the subject matter and constructed a lesson plan, each member of the group is assigned a demonstration to conduct. Rehearsals of demonstrations are conducted for a half day period. The officer student putting on the show chooses a part of the class to serve as his demonstration group, while the remainder makes up the audience for his running commentary.

Upon completion of rehearsals, the student officer presents his demonstration. He must present it as if the class were composed of recruits, and in such a manner that everyone understands it completely. During the presentation, the class looks for mistakes in the preparation, presentation, examination, discussion, and demonstration. Comments are developed during the review.

Developing into Instructors

The second period of the eight weeks' course consists of approximately two weeks' supervising teaching being done by the noncommissioned officers. During this period, the class assists the NCOs in preparing their lectures, demonstrations, or whatever manner of instruction is decided upon to be best suited for that particular subject. They also correct any mistakes that might be made, and advance suggestions for better instruction. During the third and last period, lasting two weeks, the students take key positions in a battalion of recruits and actually train those recruits in different subjects. At the completion of the training period, the young officer finds the ordeal of instruction becoming a pleasure, and his nervousness and lack of confidence at least partially overcome. He is then ready for duty with a training regiment.

Neuroses in Combat

Causes of war neuroses in combat, with factors that enable a man to get through without damage to his mind or nerves are outlined by Commander Joseph W. Owen, U. S. N., a psychiatrist who has handled many crackups at an advanced fleet hospital in the South Pacific.

Comdr. Owen lists the following as causes of war neuroses:

1. Multiple stimuli on the field of battle—in other words, the confusion of battle.
2. Death or the injury of friends.
3. The fear of new situations.
4. Fear of one's own helplessness.
5. Sense of helplessness, particularly before the elements. The weather in the South Pacific often seems unbearable and suffocating.
6. Lack of pleasurable stimuli. In battle, men lose sleep, cannot find an outlet through talk with their friends, and are deprived of other forms of recreation to which they are accustomed.

Opposed to these, Comdr. Owen gives the following reasons which cause men to be effective fighters:

1. The sense of duty to the group with which they fight, to their family, and to their country.
2. A sense of invulnerability which causes men to say to themselves: "There must be something peculiar about me which is keeping me from being destroyed."
3. The primitive impulse to fight for survival when the enemy is encountered.
4. Belief in the justice of their cause and in the things for which they fight.
5. The religious feeling of predestination.
6. A feeling of personal power.
7. Confidence in superiors and equipment.

SGT. GEORGE E. MCMILLAN, Marine Corps Combat Correspondent.

This Month's Cover

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Re-prints of this cover suitable for framing will be furnished upon receipt of 10c in cash or stamps to cover cost of handling and mailing.

The Boxer Rebellion

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In the summer of 1900, the Imperial City of Peking, China, was a city of terror. "The Fist of Righteous Harmony," China's Boxer society, had raised its dragon banners to terrorize and massacre foreigners and Chinese Christians and to burn and pillage foreign property with the tacit approval of the reactionary Dowager Empress Tsz'e Hsi.

The American Legation was the center of the valiant defense maintained in Peking by small detachments of foreign troops endeavoring to stave off the Boxers' fanatical fury until relief in force arrived. It was at this site that the Legation guard, composed of forty-eight United States Marines and three sailors, held a position near one of the city's great walls and the main gate, which was called "the most difficult and dangerous portion of the defense" by Honorable Edwin H. Conger, United States Minister to China.

The legation guard had arrived at Peking on May 31, 1900. The guard's membership was selected from personnel aboard the *Oregon* and *Newark*. Captain Newt H. Hall commanded the *Oregon's* landing party, and Captain John T. Myers that of the *Newark*. On May 24, Captain Hall's group was put ashore at Taku, on the Yellow Sea, approximately 100 miles from Peking. It was joined on May 28 by Captain Myers' party. Together with similar small detachments of troops from other countries, they managed to reach Peking before the Boxers had completely surrounded and isolated that city.

Until August 13, 1900, when an allied force in strength arrived, these small detachments faced the Boxers' fury alone. Boxers were around the legations, throughout the city. They surrounded the walls, outnumbering the defenders heavily. Foreigners and Chinese Christians crowded into the legations, seeking refuge from the terror that ran screaming through Peking's streets and lanes. Pillage and murder were daily occurrences. At first, Captain Hall's detachment was on guard at a Methodist mission some distance from the legation compound. But, as the situation became more tense and the Imperial Government refused to interfere, foreign women and children were moved to the British Legation. Captain Hall moved the Chinese Christians he had been guarding at the mission to the American Legation compound.

On June 24, serious fighting began on the walls surrounding the legations. United States Marines, under command of Captain Myers, established a barricade, with German troops defending the rear. The Marines' sector was too large for their small force to defend, and it was necessary to reinforce them each day with small detachments of Russians, Germans, and English. In the closing days of June, fighting became almost continuous. Every endeavor was made to hold the American Legation, because its abandonment would mean that the refugees must be moved to the British Legation, already overcrowded.

One incident illustrates the odds faced by the little garrison. Captain Myers led a group of fifty-five American, British, and Russian troops to capture a formidable tower on the wall, defended by several hundred Boxers. Over fifty of the Boxers were killed. Two United States Marines were killed; Captain Myers and a British Marine were wounded. The position was taken and held to the last with the loss of only one other man.

As the stubbornness of the Marine defense be-

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Colonel John Potts, USMC . . . . . Editor
Major Walter W. Hitesman, Jr., USMC . Managing Editor
1st Lt. Donald M. Stewart, USMCR . . Associate Editor

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Telephone: DIstrict 5213

Sgt. Joseph C. Keeley, USMCR . . Asst. Managing Editor
Associates: Sgt. Frank R. Millhouse, Jr., USMCR; Corp. Nancy Lee Bates, USMCWR, PFC Maxine Crow, USMCWR.

came evident, the Chinese reduced their activity to sniping. On July 16, an armistice agreement was reached which lasted until the relief column arrived. With 482 United States Marines leading the attack, the siege of Peking finally was lifted August 13-19 by an allied force composed of some 2,000 United States Marines and Army troops, British, Russian, German, and Japanese.

In his report of the siege of Peking, Conner, the United States Minister, said of the gallant detachment who defended the Legation:

"The United States Marines acquitted themselves nobly. Twice they were driven from the wall, and once forced to abandon the legation, but each time, reinforced, they immediately retook it, and, with only a handful of men, aided by ten Russian sailors, and, for a few days, a few British Marines, held it to the last against several hundred Chinese with three pieces of artillery . . . I cannot close this dispatch without gratefully mentioning the splendid service performed by the United States Marines, who arrived here on May 31 under the command of Captain Myers . . . Their conduct won the admiration and gratitude of all."

Completing the Cycle of Leadership

THE following excerpts have been taken from a lecture to infantry officers on the topic of "Man Management," which was printed by the Chief of the Indian General Staff in 1944 and distributed to British officers:

"The term 'Man Management' has, so far as I know, never yet been very closely defined; it is certainly capable of very wide interpretation. As I see it, the objects of 'Man Management' are:

"(a) To make men mentally and physically fit *for* battle.

"(b) To keep men mentally and physically fit *in* battle.

"(c) To restore men mentally and physically *after* battle and so on, thus completing a cycle. . . .

"It is not always realized that there should be two standards of discipline—one for the officer and one for the man, and that the standard of discipline for the officer should be twice as strict as that of the man. By that I mean that the officer should set himself a standard of turnout and behaviour, fitness and everything else, which should be higher than any he expects of his own men, and that, also, if an officer for any reason has disciplinary action taken against him he must expect to be punished twice as severely as any of his men. If this is realized by the men, then you have the first requisite of man management—the respect of the men for their officers. . . .

"Battle is the most exhausting ordeal, both physically and mentally, that a man can be called upon to undergo. It follows, therefore, that, if they start their battle fresh in mind and body, they are well placed to defeat the enemy. It may not always be possible to bring troops to the battlefield completely fresh, yet we should always aim at doing it; and, if it is not possible, then we must do what we can to see that the men get everything that is humanly possible for their comfort. . . .

"While on the subject of bringing troops fresh into the battlefield, there are one or two other points that have a bearing on this. The main one is to accustom troops to battle gradually. . . . One should always avoid, if possible, putting troops straight into a major action; it seldom pays. . . . It is always advisable, therefore, to put new divisions, brigades, battalions, etc., into certain parts of the front where their first contact with the enemy will be patrolling activities; then, as they gradually become accustomed to meeting the enemy face to face and realizing that he is just an ordinary individual, they can later be put into the battle.

"When the battle is over, everybody will want a period for recovery. That period may be long or short, according to the intensity of the battle. . . . Good Q.Ms. and Staff Captains will then strive their utmost to see that their men get their full ration of well-cooked food plus anything there may be available from the canteen. . . . At the same time, there must be no relaxation of discipline. This applies particularly to anti-malaria discipline and field hygiene, which are the things most frequently neglected at this time. . . . Later on, when the men are thoroughly rested, they should be smartened up and made to realize that, in the life of the soldier, battle is just as much part of his normal life as any other exercise or parade, and, when it is over, they must start preparing themselves for whatever faces them next. . . .

"I will finish with a quotation from a speech by Field Marshal Sir Philip Chetwode. It is as follows:

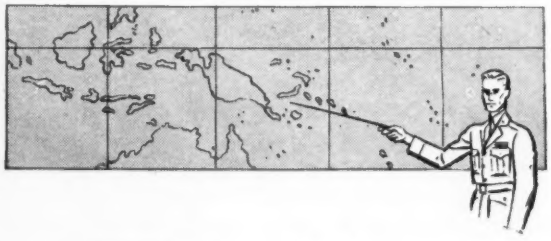
" 'The safety, honour, and welfare of your country come first
Always and every time.
The honour, welfare, and comfort of the men you command come next.
Your own ease, comfort, and safety come last
Always and every time.' "

An Essential Military Program

The question of universal military training must be answered by the 79th Congress, so the United States will never again be required to face a design of world conquest unprepared.

By Frank McNaughton

A Gazette Background Article



A CENTURY hence, historians assessing two attempts within one generation to win complete mastery of the world may well decide that aggression failed not from a lack of preparation but because the initial attack was directed at territorial acquisition rather than the destruction of industrial capacities.

This question will come up squarely before the 79th Congress, which must write either a positive or negative answer to demands that the United States—the real seat of the industrial power which has twice defeated plans for world conquest—embark upon a realistic program of universal military training that will render it safe for all time. In the 78th Congress, bills were introduced by Senator Chan Gurney of South Dakota, Representative and ex-Senator James W. Wadsworth of New York, and Chairman Andrew Jackson May of the House Military Affairs committee. All three bills aimed at establishing universal training in the postwar years. The 78th Congress refused to act on any of the measures, and the authors now insist that the 79th must, indeed, settle this question. Mr. May has announced that his committee will this month take up this controversial question "because it is something we must face sooner or later, and we might as well face it sooner."

The question of compulsory military training undoubtedly will furnish the 79th Congress' most provocative controversy. During the final months of the last Congress, great opposition was evidenced to the Gurney-Wadsworth-May bills coming mostly from religious groups, confirmed pacifists, and schools and colleges. This opposition will become more strident and vocal as legislation moves forward in the 79th Congress to presentation for a vote. But despite all objections, there is at the present an even chance that some form of a universal training program will be enacted by the Congress, and that, after 150 years of delay, the sage advice of George Washington that a great citizens army should be always in training, will be adopted.

Opposition to a universal training program is grounded mainly on theoretic considerations, and most objectors are inclined, perhaps unknowingly, to overlook the one substantial fact that to future historians may bulk largest in determining the failure of aggression: had the initial attacks of World Wars I and II been directed against the tremendous industrial power of the United States, this nation alone might have succumbed to assault, and with its defeat and conquest the world would have been left without sufficient industrial power elsewhere to marshal an overwhelming flow of munitions against the forces of aggression. Lend-lease and the United Nations' dependence upon the United States for every type of military equipment demonstrates the soundness of this assumption.

We Will Be First on the List

Until the United States is conquered, no single nation or probable combination of powers may expect to embark successfully upon a scheme of world conquest. To presuppose that the United States may never be subjected to defeat, to assume that the initial assault will always be directed elsewhere, that we shall always have time to get our gigantic industrial machinery geared to war before fending off an attack, is both foolhardy and myopic. It is too much to expect that staff schools in Europe or Asia will always overlook the vital part America has twice played in defeating the aggressor nations. The only safe assumption is that the next time—if there is to be another war—we will be first on the list.

The technical surprises in this war are sufficient warning that we can not afford to gamble on this. It was not so long ago that Japanese forces occupied a portion of the Aleutians. At that time, the Germans had not sprung their surprise V-1 and V-2 rocket bombs, shattering London and Southeast England. Our own tremendous long-range bomber, the B-29, had not been put into the air. Anyone who will take a map of the world and study polar geography is led inescapably to the conclusion that the great cities of Chicago, Minneapolis, Seattle, San Francisco, Los Angeles, even New York and Pittsburgh and Philadelphia

are no longer immune to devastating attack from rocket bombs or long distance bombers launched from polar territories. The destruction that might be wrought by such attacks is incalculable.

The rocket bomb and long range bomber open up a whole new field of war. Experiments are now being made with radio directed rocket bombs, perfecting the technique of the German "hit or miss" barrage, and it is fair to assume that science which devised these missiles will one day—perhaps through radar development—find a way of directing them precisely to the target 1,000 or 2,000 miles away. When this is accomplished, the great cities of the Western Hemisphere will be lying wide open to assault.

Ocean Highways to Conquest

Presuming that this is not accomplished, however, within a generation, the assumption of danger is still indisputable. The invasion of Europe, the accomplishments of D-Day, have demonstrated beyond argument that the oceans are not barriers to but highways for an invasion. Had Germany and Japan struck first not at China and Russia but at some defenseless nation in South America with all their combined fury, using the Japanese fleet, the Luftwaffe and paratroop forces, the United States might have seen its cities laid waste, its factories battered, and its navy more disastrously beaten than at Pearl Harbor, by forces entrenched and operating from South American bases.

The technique of war has moved forward; the technique of preparedness must keep pace, for nations like plants must "adapt or die."

These thoughts have impressed themselves upon men like General Marshall, Secretary of War Stimson, Assistant Secretary John J. McCloy, Secretary of Navy Forrestal, General Henry H. Arnold and others who know the terrible urgencies of defense, and who sincerely and deeply believe that the United States cannot again be put in the position of facing a design of world conquest with a midget army and an untrained citizenry.

Major General Julian C. Smith, new commanding general of the Department of the Pacific, told newspaper reporters in San Francisco: "Only highly trained troops containing a large nucleus of pre-war trained men could have beaten the Japs at Tarawa and in the Southern Palaus. You can't build up a military organization in a short time." General Smith also said that the proper age to start training youths was between the ages of eighteen and twenty years.

"I predict," Mr. McCloy said recently, "that if war should ever come again—and we all fervently hope it will not—the aggressor nations will strike us first and fast. History will record that American manpower and industrial might swung the balance in both World War I and the present conflict. Both times this country was woefully unprepared. Both times our friends held off the aggressors while we prepared.

"Next time the aggressor will not make the same mistake, if he is sensible, but will attempt to eliminate the main strength first. War will come suddenly from the air (bombs and rockets) and we will be the first to be attacked. Our only hope for national security is a pool of trained manpower such as only a universal military training system can provide."

General Arnold, who knows well the tremendous destructive power of rockets and bombers, sees in the United States' role as a world power the necessity for a universal training program. As he puts it:

"I believe universal military training is an essential policy if we are to meet obligations that are inescapably associated with our role as one of the greatest of world powers. We may not always have the first impact of war absorbed by other nations. We may not always have time to prepare."

These considerations led the war department, many months ago, to begin special studies directed at creating a postwar training program. The Citizens Committee for Universal Military Training, in New York, has estimated that one million youths would reach the training age each year, that the army would take some 650,000 into its camps, and that the navy would train another 250,000. It puts the cost of the program at roughly one billion dollars a year. Opponents of the program have used estimates as high as four billion dollars annually, a figure patently excessive.

Technical, Mechanical and Military Training

The War Department believes that any training program should concern itself not only with the rudiments of military science, but intends that the training be thorough and complete within the limitations of one year. The regular army, which will conduct the training, will benefit by the necessity of keeping on its toes, alert, and educationally progressive. Youths will be trained in the use of artillery, to pilot planes, handle radar, to service planes and tanks and other equipment, as well as to use them. It is the department's intention to pattern its training program so that no branch of the service will be neglected or "starved" of trainees, and so that each trainee will have the best instruction in his particular service that the government is able to provide. In this way, it is hoped to offer to many youths technical and mechanical, as well as military, training which

The 79th Congress, shown being sworn in by Speaker Sam Rayburn on January 3rd, has to find a solution to the important problem of compulsory military training.

they would otherwise be unable to obtain for themselves.

The schools and colleges object to such a training program for a variety of reasons. First, the plan to give a year's training to each physically and mentally qualified youth between 17 and 21 would tend to interrupt the educational process, they argue without giving any credit for the schooling that will be involved in the military program. College enrollments would be disrupted by the training program, and this the educators oppose. They are not satisfied with provisions for allowing the trainee to choose his year of training between 17 and 21, which would allow him to complete his service immediately before entering or after leaving college.

Raising the Level of ROTC

The objections of some educators that the military program would lead to elimination or reduction of the ROTC programs in colleges and universities seems ill-founded. The War Department plans rather an expansion of these courses and the encouragement of trainees to advance their military education in ROTC units, believing that then "we shall be able for the first time to raise ROTC courses to a real university level."

Religious groups naturally look with misgivings on a program intended to equip every youth with military indoctrination and education, although at a recent meeting of clerics in Washington the idea of universal training was not vetoed. The thought that some fine young men might be ruined by habits and modes of thought accumulated from mass associations inherent in a universal training program can hardly be sustained. Only those with inherent tendencies toward weakness or criminality would be harmed, and conversely, training in patriotic and civic duty, deeper respect for religious and educational institutions, respect for social order, and keener sense of social responsibilities would undoubtedly tend to repress anti-social inclinations.

It is more likely that youth would benefit morally, physically, and mentally from such a program.

Opposed to the arguments of the pacifists, that those armed seek trouble, is the indisputable fact that an unarmed United States has twice within a generation had to fight not only for its very life but for the entire world. As the great Cordell Hull often remarked to his friends, "When gangsters are loose, it is not well to go out unarmed." Mr. Hull was one of the nation's greatly devout believers in peace, and yet one of the real advocates of adequate preparation for attack.

Perhaps the best summary of all arguments against a universal training program was announced recently by Senator Ed Johnson of Colorado. The vigor of his statement is a forewarning of the tremendous debate that will come in the 79th Congress.

"The disciples of defeatism, the isolationists, and the crowd that wants to regiment Americans, are now whooping it up for compulsory military training," said the Senator. "They would teach Americans to rattle sabers, and to cook and brush their teeth and learn democracy from screwball masters; and they would launch a new worldwide armament race. That sounds like Adolf Hitler to me."

"Against whom do we need a gigantic army of

foot soldiers?" he asks. The same questions were asked in 1940 and 1941 during the Selective Service Law debates. The obvious answer is, no one, once the war is won, but we don't know when we might need one. It is better to have a trained citizenry than another Pearl Harbor, and not even the titanic advances of scientific warfare have yet disclosed a way to take and hold territory without infantry.

"Our thinking respecting security must be global," Senator Johnson says, with which all can agree. This thought leads to the conclusion that the United States must be prepared, even militarily, to accept global responsibilities. The duty of helping preserve the peace through all the world cannot be discharged by a virtually unarmed nation.

Youth Would Profit from Training

"A year in boot camp would help many and ruin many, just as the present military service has ruined countless young men," the Senator argues. Sober students of military education and its values are generally agreed that in most cases youths would actually profit from a training program. In any event, it is fair to ask if Senator Johnson's thesis is not equally applicable to youth in any case; were there no training program, still would not many be ruined by the rigors of ordinary existence?

The Senator also objects that universal compulsory training in peacetime is "un-American and undemocratic," that "our voluntary system has proved its superiority." This seems a highly questionable assumption. It is true there is a long tradition against compulsory peacetime training; Congress itself broke 150 years of tradition by ordering the peacetime draft. That the system would be undemocratic is open to serious challenge. Rather, it would be "democratic across the board," as Mr. McCloy has said, imposing upon rich and poor alike the duty of preparing himself to defend his nation. That the voluntary system has proved its superiority seems plainly erroneous. It failed George Washington, who complained he often had not sufficient men to post a guard. As President, Washington submitted to Congress plans for raising up and training a citizens' army. His plan was discarded. The voluntary system failed Abraham Lincoln, and could not even be risked in World Wars I and II, so inadequate had it proved itself.

Another argument against the training program is that when the Dumbarton Oaks peace program is finally adopted there will be no need for universal training. The reverse conclusion is the sounder case. Enactment of the security program will not change human nature or cure inordinate thirst for conquest. Adhering to the world security program, the United States will assume above the duty of self-defense only, the responsibility of helping to enforce peace in all quarters of the world. At least twenty years will have to elapse before any world security organization will have proved itself and demonstrated its effectiveness. The additional duties this nation will be required to assume, the added responsibilities it must accept, and the undemonstrated nature of a world security organization require that some measure of self-protection be prosecuted in the postwar period. The mistakes of the wonderful 1920 era of disarmament cannot be repeated.

Washington, Thomas Jefferson, and now General Marshall, Secretary Stimson, and many other men of undoubted sincerity and statesmanship have insisted that a universal training program must be adopted. Two years ago, Congress wrote into the draft laws a provision that green, untrained men should not be rushed into battle.

After World War I General Pershing observed: "If we had adopted compulsory military training in 1914, it would not have been necessary for us to send partially trained boys into battle against the veteran troops of our adversary and certainly we could have ended the conflict much sooner, with the savings of thousands of lives and billions of treasure."

Such counsel must weigh heavily when Congress reaches the point of voting on a universal program.

The state, too, as Mr. McCloy says, owes the citizen a "duty" of training him adequately "for the emergency the state might call on him to meet." It has the responsibility of equipping him most ably to meet the risks he may be required to take. Also, Mr. McCloy thinks that asking whom the citizens' army is being raised "against" is like demanding of an insuror what fire he seeks to protect himself against.

The alternative to a trained citizenry, as General Marshall recently pointed out, is "the system of Germany and Japan"—a professional standing army.

Defects of Professional Standing Armies

"It produces highly efficient Armies," General Marshall wrote recently of the German-Japanese system. "But it is open to serious political objections. In a nation maintaining such a system, intelligent opinion as to military policy (and the international policy associated therewith) is concentrated in a special class. Under such a system, the people themselves are competent to exert only a limited intelligent influence on the issues of war and peace. Under such a system, only the brawn of a people is prepared for war, there being no adequate provision for developing the latent military leadership and genius of the people as a whole. It therefore has no place among the institutions of a modern democratic state based upon the conception of government by the people."

In behalf of the citizens' army such as the Con-

gress will be asked to create, General Marshall says: "As all our great wars have been fought in the main by citizen armies, the proposal for an organized citizen army reserve in time of peace is merely a proposal for perfecting a traditional national institution to meet modern requirements which no longer permit extemporization after the outbreak of war."

Unless Congress is prepared to reverse popular opinion, as well as the military judgment of men like General Marshall, it is probable that the program will be enacted, but only after an acrimonious and violent debate. A recent Gallup poll demonstrated that 63 per cent of the people favor a universal training program, only 23 per cent oppose it, and 14 per cent are undecided. More than 66 per cent of the men in uniform, according to military polls, favor universal training.

The issue cannot be dodged in the 79th Congress. Shall the government keep pace with the advanced technique and science of war; shall it be backed by a citizens' army; shall it prepare the citizen fully for the risks he may be called upon to take; shall the nation outfit itself for the role of a world power capable of meeting the responsibilities it proposes to assume?

Or will it risk standing unprepared and alone at some greater Pearl Harbor of the future?

Moving Combat Cargo

Vital to the success of an amphibious operation are the cargo carrying ships. Loading these ships properly calls for careful planning, following precise diagrams showing every detail. ***By S/Sgt. Bill Miller***

ONE of the Jap torpedo bombers slipped through the net of Navy fighters and flak, diving straight into the smokescreens which hid assault ships unloading off Saipan. There, in the murky darkness, a strange fate awaited the Jap pilot.

A split second after he loosed his deadly fish, his plane crashed into one of the cargo booms of a Navy AK carrying garrison troops. Down went the plane, carrying part of the ship's rigging. Meanwhile, the torpedo tore its way into the officers' quarters in the ship's superstructure, but did not explode. Later the pilot's body was recovered from floating wreckage.

Workhorses of the Fleet

Thus the AK probably became the only ship ever to down an enemy plane with her cargo boom. Admiral Turner suggested that a Jap flag be painted on the boom for the winchmen, instead of on the bridge with the gunners' tally. The ship's captain agreed, but pointed out that his winchmen doubled as gunners.

Little credit has been given these ships, the workhorses of any amphibious operation. They are the auxiliaries of the fleet which takes Marines into combat, along with their fighting equipment and the landing craft to put them ashore. Their value in the Pacific theater is so high that they are almost constantly at sea. When they put into port after an operation, there is scarcely time to give them a paint job before they are loaded for the next offensive. They are always prime targets for the enemy, and for them the more spectacular flattops, battlewagons, cruisers and destroyers run interference.

In the terse lingo of amphibious war, they are the APAs, for Auxiliary Personnel, Attack; the AKAs, or Auxiliary Kargo, Attack (K is used since C stands for craft); the APs and AKs, which land reserve troops and supplies after the beachhead is won; the XAPs and XAKs (X meaning a ship manned by a Merchant Marine crew). A for assault was added in December, 1942, after the two principal types won the right to a prouder title at Guadalcanal. In the same class are the Army transports, the ATs, LCIs, or Landing Craft, Infantry, which have been widely publicized as carriers of amphibious invasion troops, are often used as gunboats or rocket ships in the Pacific, because of coral reefs over which so many landings must be made.

To fighting Marines, the assault ships have names and personalities, as well as battle records that cover every Pacific operation. Among them are the troop transports named for Marine commandants, like the George P. Elliott, sunk at Guadalcanal.

Marines are also familiar with the AKAs, most of them named for stars of the heavens, among them the Alchiba, sunk by two Jap torpedoes off Guadalcanal, but refloated and taken into Tulagi harbor for makeshift repair before she was taken back to Pearl Harbor. Five AKAs supplied the opening Marine offensive under conditions which won the Navy Cross for each of their captains. The Alchiba won a unit citation. There are many other names, each with its own untold story.

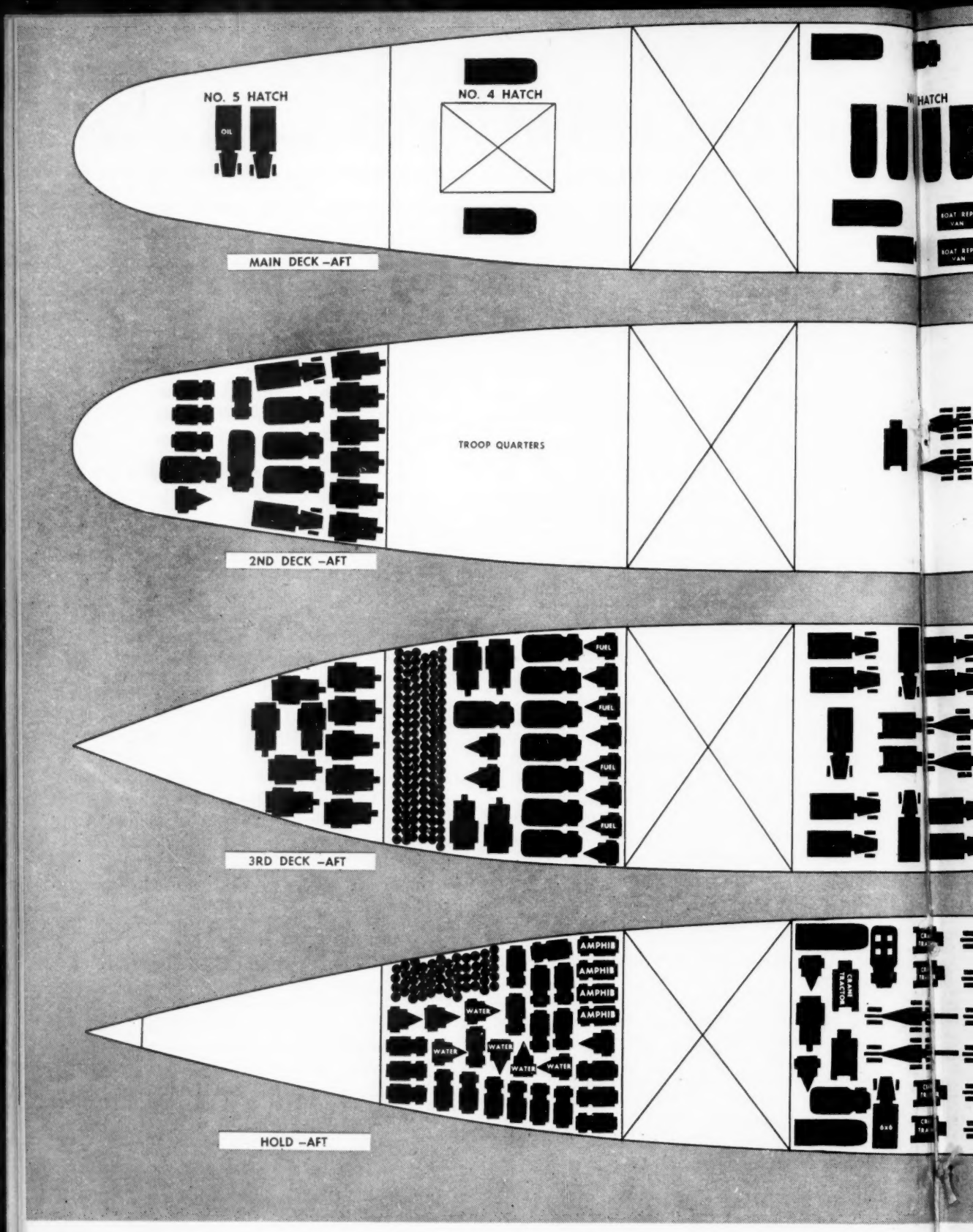
Back of these ships is the story of the Transport Quartermaster and the technique of combat loading which the Marine Corps originated and contributed to the science of amphibious war. Theories of combat loading taught at Quantico in connection with Atlantic Fleet landing force maneuvers off Culebra Island in 1935-37 were first applied when the 1st Marine Brigade shipped out of Norfolk to Cuba in 1940. From the Quantico theories and the practical know-how of veteran battalion commanders under Brigadier General Holland McT. Smith (now a lieutenant general and commander of FMF, Pacific) came the first SOP for loading assault transports. Into it went the traditional Marine "get it done" creed.

First TQM School at Quantico

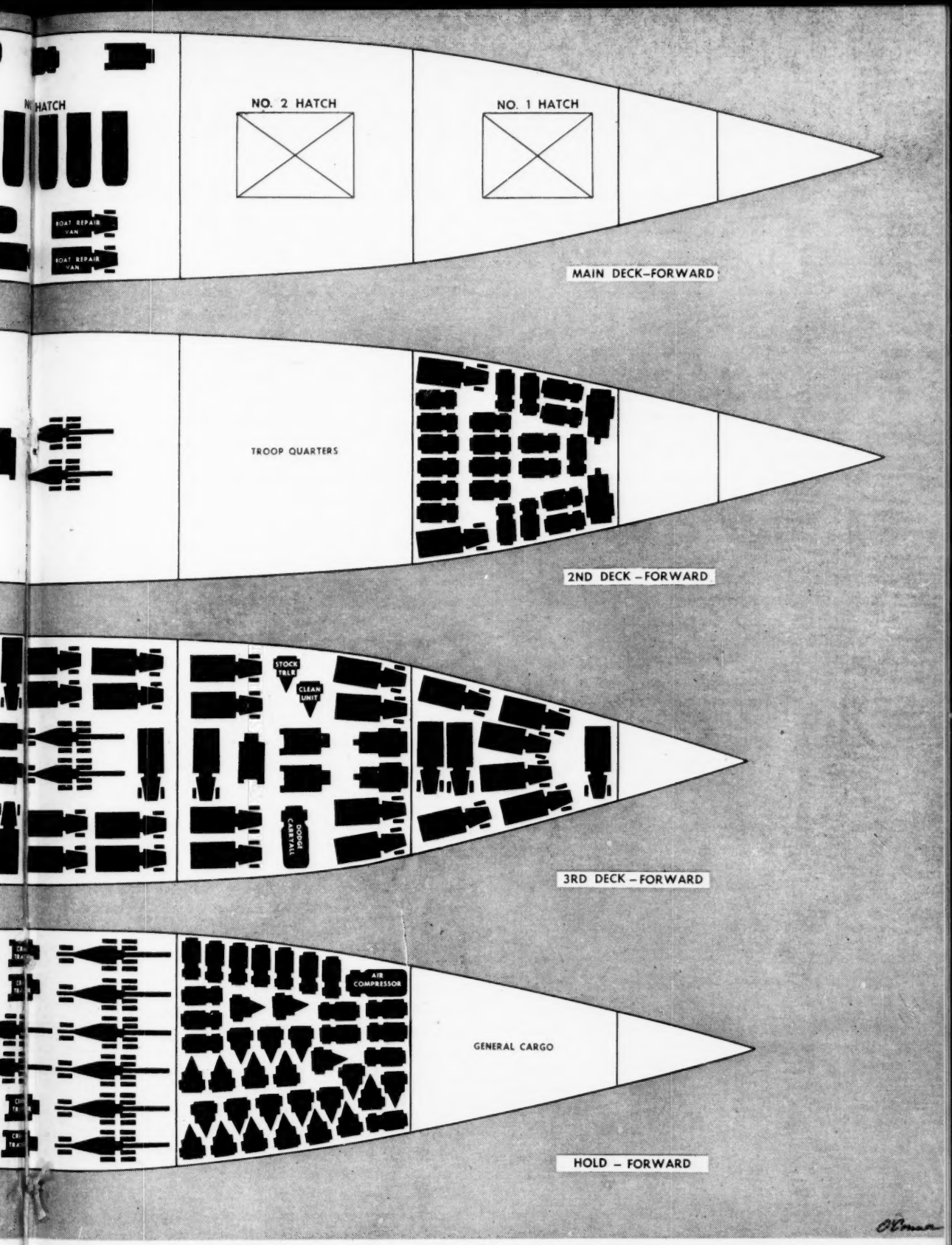
When General Smith took command of the first U. S. amphibious force in the summer of 1941, the Marine loading plan became the SOP for amphibious training at Norfolk and elsewhere along the East Coast. When the 1st Marine Division was shifted to the South Pacific, it brought the same methods of combat loading to that theater.

All amphibious plans and training were top drawer secrets in September, 1941, when the first Transport Quartermaster Section started training a group of fifteen enlisted men at Quantico for the new operation. This training was later expanded, and the first TQM school was set up at Quantico in February, 1942.

Combat loading of each ship is supervised by one officer and two NCOs working as a team. The same team goes with the ship and directs



The TQM. knowing the plan and capacity of each deck fits scale templates of cargo on diagrams like these.


NO. 2 HATCH
NO. 1 HATCH
BOAT REPAIR VAN
BOAT REPAIR VAN
MAIN DECK–FORWARD
TROOP QUARTERS
2ND DECK – FORWARD
STOCK TRLR
CLEAN UNIT
DOUGH CARRYALL
3RD DECK – FORWARD
AIR COMPRESSOR
GENERAL CARGO
HOLD – FORWARD
TRUCK ¾ TON
TRUCK 2½ TON
ATHEY TRAILER
TRACTOR
CARGO TRAILER
DUKW
JEEP
155 GUN
GASOLINE DRUMS

the all-important job of unloading off the beach.

Combat loading is part of the tactics in any amphibious operation, and is not comparable with ordinary ship loading. In short, it means drawing up the first battle line of the invading force aboard the assault ships before they leave port. All troops and equipment must have their assigned places and scheduled priority for unloading.

Each echelon of TQM, from force down to regiment, is a special staff section. TQM teams are assigned to each battalion for an operation. When operational plans are drawn and available, shipping is allotted to the various fighting units, the TQM goes to work. From unit personnel and tonnage tables, he prepares a consolidated table, listing everything to be loaded. Then, knowing the tactical plan and the exact capacity of each hold and deck space on the ship, he prepares the loading plan. No unit ever gets as many ships as it thinks it needs, so there is always a decision to make on what is to go and what is to be left behind. In addition, the equipment is limited in size and weight to what the assault ships can unload with their own booms and landing craft.

On diagrams of each hold and deck space, scale templates of each vehicle and cargo unit are fitted and traced. Each unit of cargo is given a priority number, and numbers showing the hold and platform where it is to go, which are chalked on the unit before it goes aboard. From this data, a profile loading plan is made showing at a glance how the ship is to be loaded.

Vehicles drive up to the dock in the exact inverse order of priority, since what is loaded first comes off last. Each is itself combat loaded with supplies and equipment, its gas tanks three-quarters full, oil checked, motor inspected and the entire vehicle waterproofed. Each must be ready to move into action instantly when the landing craft grounds and the ramp swings down.

Troops Load and Unload Cargo

While Marines who draw the detail have never accepted the idea with enthusiasm, it is general practice to assign some of the embarking troops for loading and unloading combat cargo. The reason is obvious—they become familiar with the stowage and will be on hand to unload. If professional stevedores load the ship, a detail of the embarking troops stand by to study the stowage, and that detail unloads the ship. In some instances, professional stevedores have been sent to unload the ship, but the high premium on space usually prevents that.

When procuring of ships for Marine assault transports began, luxury liners like the Normandie and the Washington were considered unsuitable, because too much of their space was in staterooms which could hold troops but not equipment. Combination cargo and passenger ships were converted for the first APAs, and the same general type of hull is still used. APAs have from four to seven holds, and four or more horizontal levels; usually a main deck, upper 'tweendecks, lower 'tweendecks and lower hold. Troops are quartered in the 'tweendecks spaces, and most cargo goes into the lower hold.

Doing a Lot with a Little

The real story of the Pacific war is the ingenuity American forces have used to accomplish a lot with a little. For example, LSTs in the Pacific are best used in carrying amphtracs and ducks, since coral reefs often prevent them from landing directly on the beach in the early assault phase. With these amphibs must go the troops to make the assault landing, so the floating garages have carried far more than their normal complement of personnel. There are no quarters below decks for these troops, so they have to sack up under canvas in the landing craft and pontoons which take up most of the deck space. There is no comfort and few facilities, but somehow the necessary troops are put aboard, transported to the scene of action and landed in shape to fight.

Skill in combat loading has increased with each operation. Speed was a lesson from Guadalcanal, where the AKAs had to run the Jap blockade. Transports were unloaded under cover of a task force, but the AKAs had to slip in singly with only a destroyer as convoy. They would run in at dawn and were under orders to finish unloading within twelve hours, so they could get out before night.

While much of the cargo originally sent to Guadalcanal in the assault ships was never unloaded, every ounce was put ashore in the Marianas operation. Assault ships for Saipan were completely unloaded in eleven days, although there were many interruptions. Night air attacks continued for almost a week, and some of the ships were ordered to pull out when the Jap fleet was reported in the vicinity. Those ships were unloaded outside any sheltered anchorage, over coral reefs, and the beach was under enemy fire until D plus 4. Conditions at Guam were not quite so tough, but the unloading was over coral reefs and road nets ashore were deplorable. All assault ships in that phase of the operation were unloaded in ten days.

Shipping tonnage is the best measuring stick for the size of an amphibious operation, and affords the best means of comparing Pacific and Atlantic theaters. In the entire Marianas job, 137,593 tons of assault supplies were unloaded, including 10,929 vehicles, as compared with the millions of tons and hundreds of thousands of vehicles which the Allies landed on the Normandy beachhead. But the day is not far off when the Pacific will have its full quota of ships.

Identifying and Using Japanese Equipment

Three types of Bren machinegun now being used by the Japanese.

By W. H. B. Smith

THE Japanese are employing large quantities of British, Canadian, and Australian manufactured Bren guns captured at Hong Kong, Singapore and in the Malay Peninsula campaigns. Just how many they captured is another military secret. But it is no secret that they have so many that they are manufacturing standard British .303 cartridges to supply them.

Toyokawa Naval Arsenal as far back as 1942 was manufacturing exact imitations of the British Mark VII rifle and machinegun ammunition. These cartridges have *rimmed* cases, and are stab-crimped at the neck exactly as in British-made ammunition. At Attu, British Bren, Vickers, and Lewis guns were captured; as well as Jap-made copies of the Lewis, both infantry and aircraft models. All use the British, or Jap-made copy, .303 cartridge.

The British Bren Gun

Not only is the British Bren in wide use by the Japanese—a use which will grow wider as the war spreads to the China area—but the Japs have made modified versions (*not copies*) of it for use in tanks, and different modifications for use as free guns in airplanes. Furthermore, quantities of Czech, and also Chinese-made Brno ZB guns (from which the Bren evolved) have been captured by our forces. In view of these facts, an understanding of the Bren Gun—what it is and what to do with it—may prove a very valuable asset to Marines in the days ahead.

IDENTIFICATION: The Bren may be distinguished at once from the true Jap types which resemble it by the following differences:

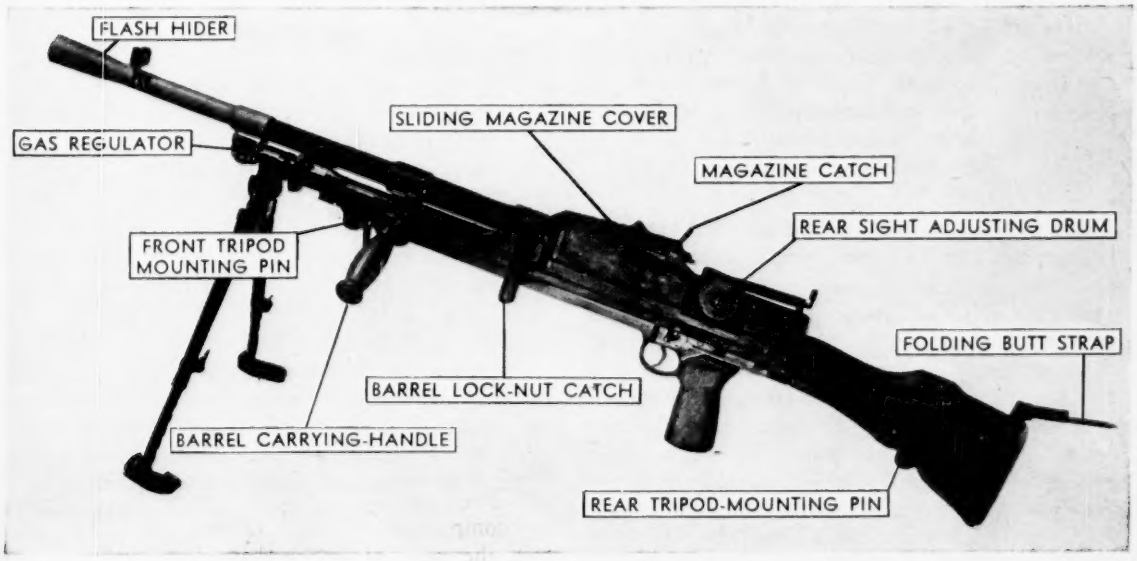
(1) The operating handle is on the *right side* of the receiver. In the Jap 96 and 99, it is on the left side.

(2) The barrel is *smooth*. All the genuine Jap types have cooling rings around the barrel.

(3) The barrel carrying handle is on a sleeve and *can be folded down on the left side of the barrel* when the weapon is to be used. The Jap 96 and 99 carrying handles are rigid and do not permit folding.

While there are a great many other differences, these three are all you need to remember to permit immediate recognition.

MOUNTS: This is an all-purpose gun of the finest type. It is normally fitted with a folding bipod mount which may be snapped up under the barrel when not being used. A butt handle is folded into the underside of the rear of the butt. When firing from a prone position, this is normally unfolded, rested on the ground and held by the left hand. A butt strap on top of the rear of the butt may be unfolded to rest over the right shoulder for additional support. A folding tripod which can be quickly and efficiently elevated, traversed, or converted for AA fire is also provided



British Bren Gun

LOADING AND FIRING:

(1) There is a dust cover on top of the receiver over the magazine opening. PUSH IT STRAIGHT FORWARD.

(2) Insert the front end of a loaded magazine in the front end of the opening; then push the rear end down firmly until it snaps into engagement with the catch.

(3) Pull the operating handle ON THE RIGHT SIDE of the receiver back as far as it will go. If the Bren is a "Mark I," the handle may be folded forward and must be unfolded before it can be pulled back. If the Bren is a "Mark II," the handle will be rigid.

This motion will draw back the piston, slide, bolt and lock assesmblies as in your BAR, and will compress the recoil spring which in this weapon is mounted inside the shoulder stock. The sear will catch in the notch in the underside of the slide and hold the action open. Gravity and the force of the magazine spring will push the first cartridge in the magazine down into line with the bolt.

(4) On the LEFT side of the receiver, directly above the trigger, three letters are stamped into the metal—"A," "S," and "R." A lever is mounted just below the letters. Turn this lever forward to "A" for full-automatic fire. Turn it up to "S" for safe. Turn it all the way back to "R" for single-shot fire.

(5) As in the BAR, this gun fires from an open bolt. A pull on the trigger, unless the safety is applied, will fire it single shot or full auto, according to the setting.

with this gun. Tripod mounting pins are provided at front and rear to permit speedy mounting and releasing.

OPERATION: As the bullet passes over the gas vent in the barrel, a quantity of gas under pressure passes through the regulator, which has four adjustable ports, No. 2 being the one normally used. From there it expands into the gas well to drive back the piston. Gas escape holes are exposed as the piston is driven back in its seating below the barrel.

The piston, being attached to the operating slide, starts that unit to the rear. The breechblock being mounted on a post on the rear of the slide, is also carried back; and the extractor in its face draws the empty case out to strike it against the ejector, which throws it out the *bottom* of the gun.

The breechblock, which locks and unlocks by a tip-up action of its rear end, strikes appropriate cam surfaces inside the receiver, and its rear end is pulled down out of locking recesses in the receiver. From there on it travels back in a straight line with the piston and slide assembly.

The operating, or recoil, spring in this weapon is compressed by a rod whose front end is seated in the rear of the operating slide—the spring itself being housed in the buttstock.

The magazine spring and gravity bring a cartridge into line as the breechblock travels to the rear past the magazine opening.

On the closing stroke of the action, after the rear end of the breechblock has been cammed up to lock the breech securely, the slide moves still further ahead. The piston post (a projection on the slide on which the breechblock is mounted) riding in a slot in the under face of the breechblock drives the firing pin ahead to fire the cartridge in the chamber.

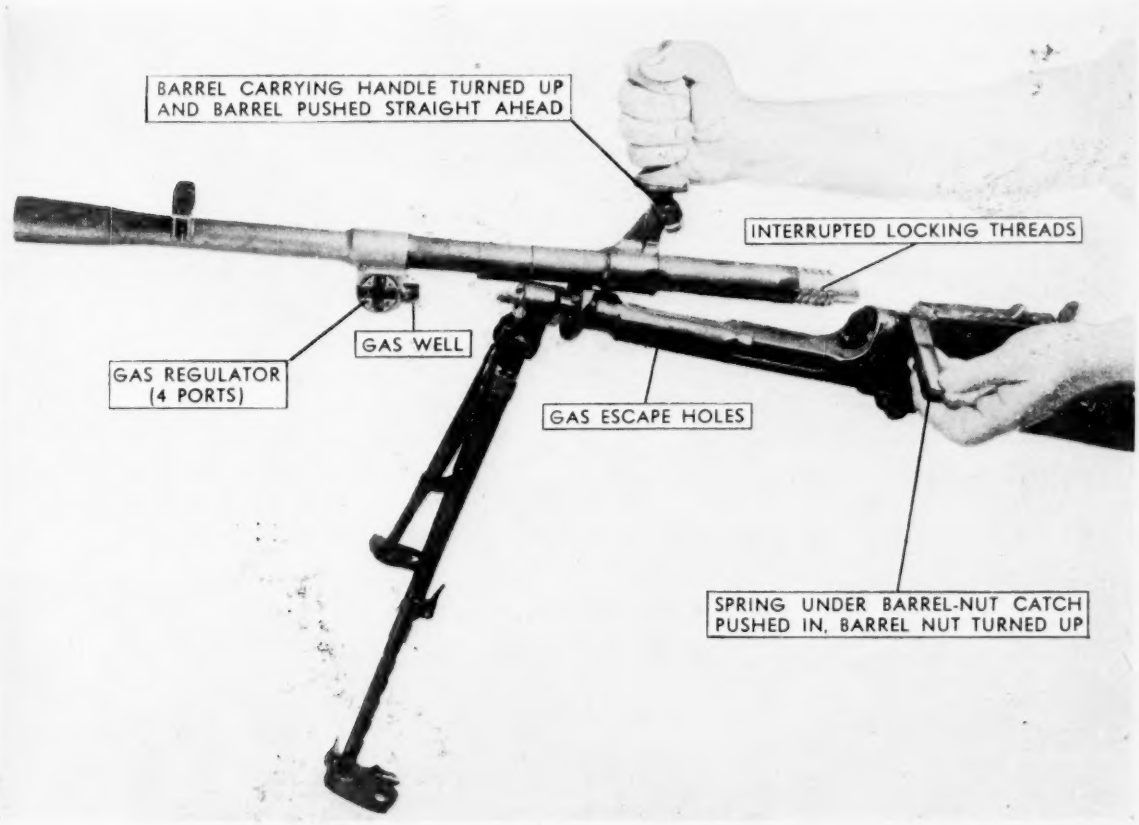
A butt plate buffer spring is housed in the butt below the line of the recoil spring in the Bren gun.

A gas regulator is mounted under the barrel ahead of the gas cylinder. Lifting a retainer pin on the left side permits the regulator to be turned so that ports 1, 2, 3, or 4 may be used. If the gas action is kept properly cleaned, it is seldom necessary to use ports 3 or 4. The normal port is 2.

UNLOADING: This gun fires from an open bolt which strips a cartridge directly from the magazine retaining lips as it moves forward. All that is necessary to unload the Bren is to push directly forward on the large magazine catch on the receiver (just behind the magazine) with the heel of the hand and at the same time tip the magazine forward with the thumb of the same hand. Removing the magazine completes unloading. The dust cover should be closed and the action eased forward after unloading.

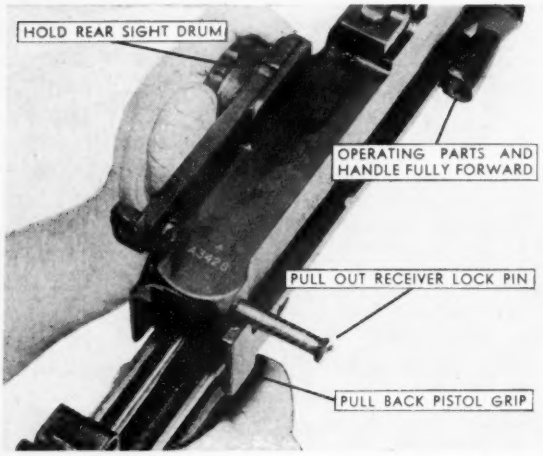
DISMOUNTING: This gun is one of the most advanced designs in light machineguns, and stripping has been greatly simplified by comparison with earlier types.

STATISTICS: This gun weighs about twenty-three pounds. A loaded magazine weighs another two and three-quarter pounds. When the tripod is used, you have another thirty pounds. The standard tripod has nineteen-degree eleva-

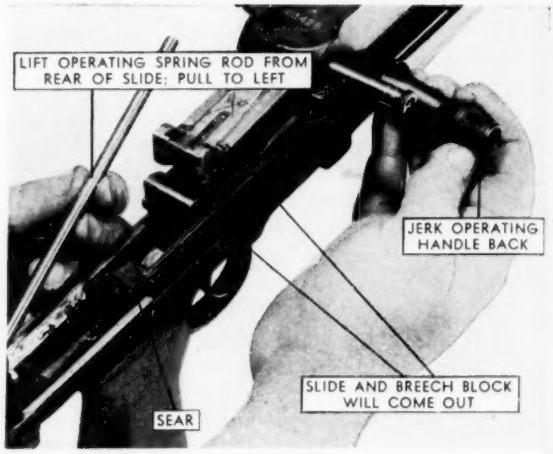


(1) BARREL. A spring-locked catch on the barrel locking nut projects down on the left side of the gun just ahead of the receiver. Squeeze the spring on its underside and the catch is freed to permit it to be turned up. This unlocks the interrupted threads. Turn the barrel carrying handle up as far as it will go, push ahead. The barrel comes out. Note: A spare barrel complete with carrying handle, flash hider, front sight and gas regulator is part of the equipment of each Bren gun. This permits changing overheated barrels in ten seconds or less.

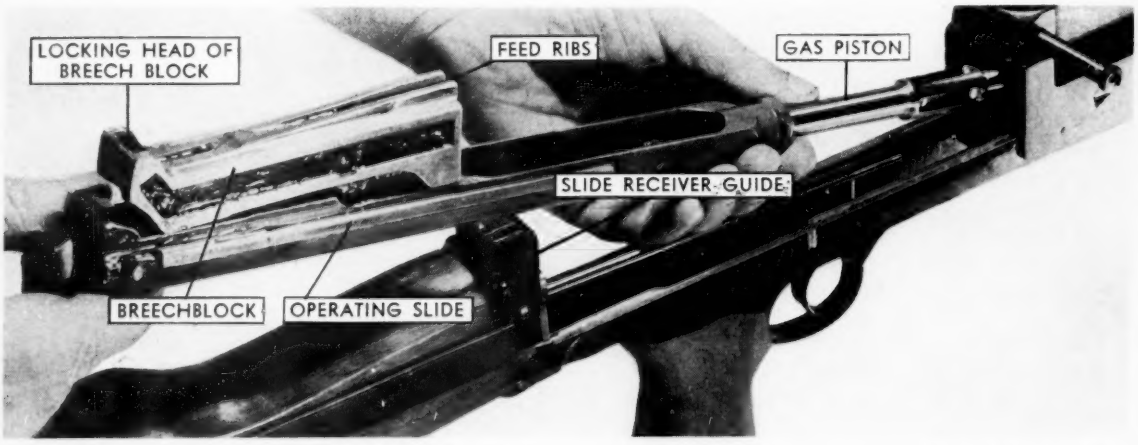
(2) Be sure the action is fully forward. Then, with the point of a bullet, push the locking pin which passes through the receiver just behind the rear sight aperture. Push from the left and pull right as far as possible.



Grip the rear sight drum with the left hand; with the right hand pull straight back on the pistol grip. Draw back until the operating spring rod clears the receiver.

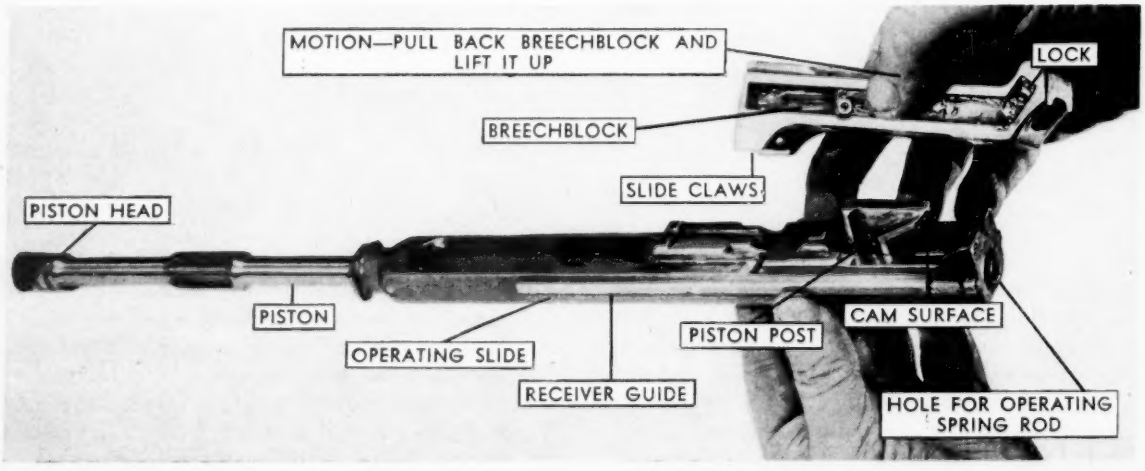


(3) With the left hand, tilt the rod out of the path of the receiver, to the left. With the right hand, jerk the operating handle straight back, to free the breech block.



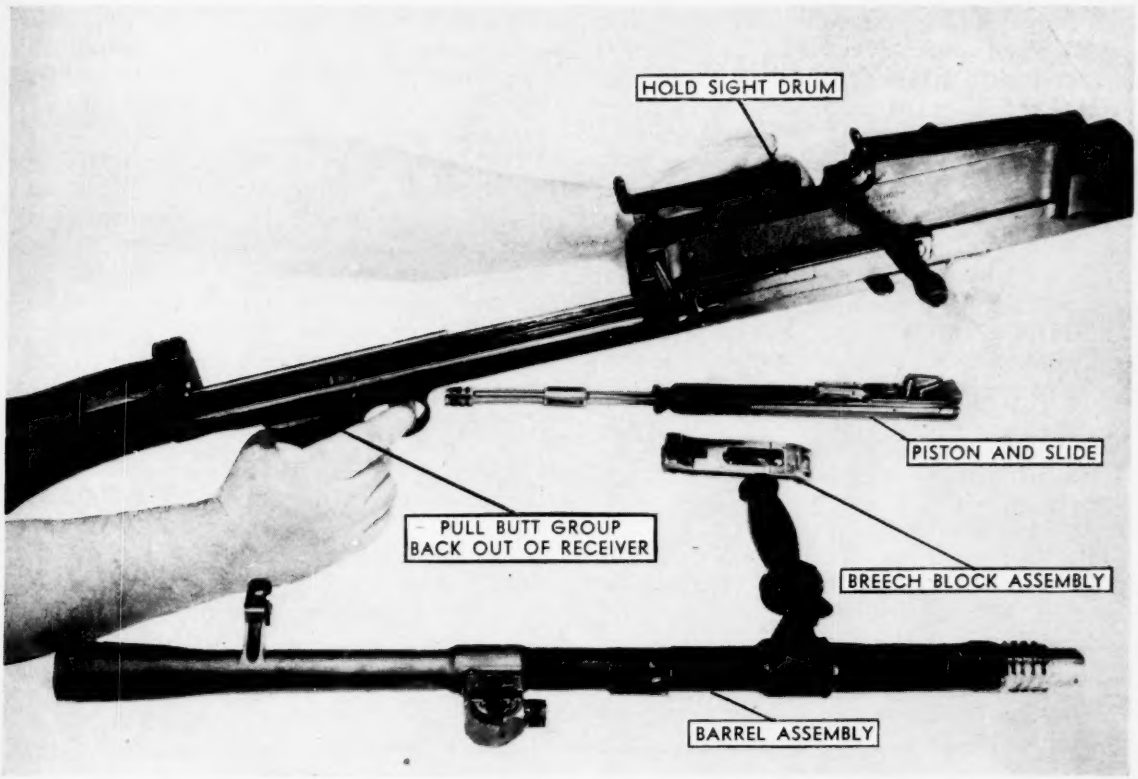
(4) Now remove the piston, slide and breechblock assemblies.

(5) The breechblock is mounted on the piston post on the slide end of the piston, claws at its front end being engaged in grooves that are cut into the slide.

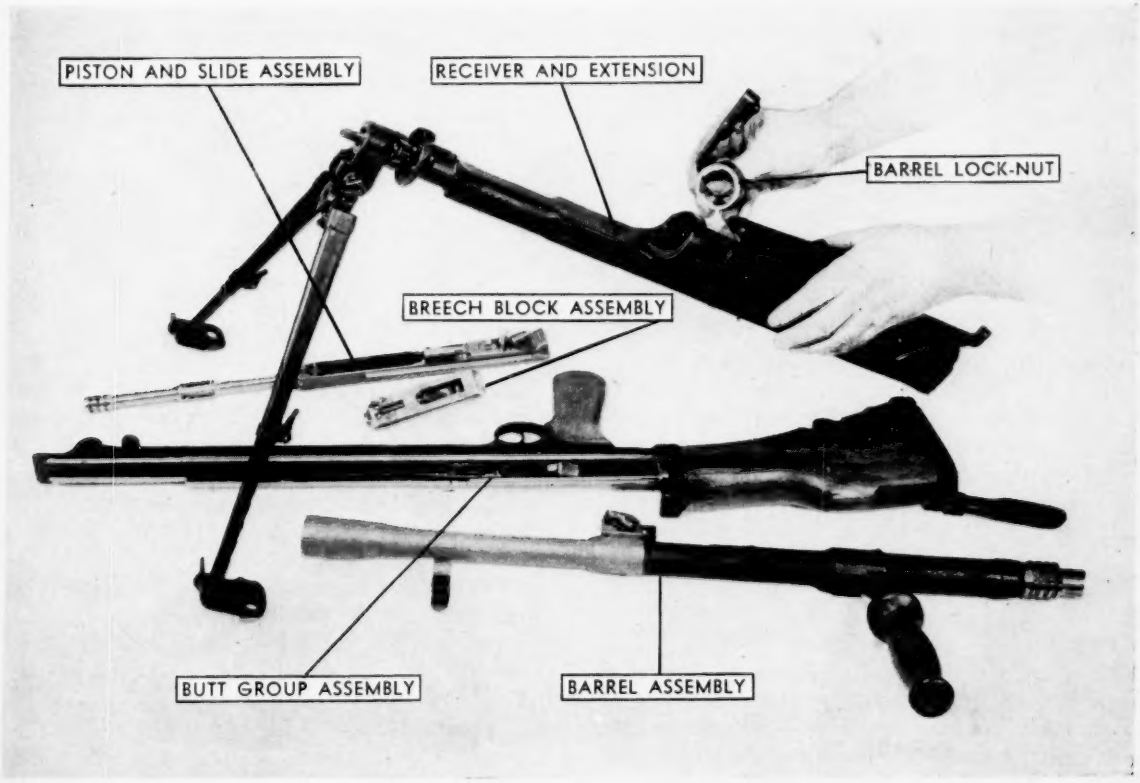


Pull the block back to free the claws. The breechblock may then be lifted off the post.

Following this, it will be easy to remove both the pin and extractor, if they are needed.



(6) Hold the rear sight drum with the left hand. With the right, pull straight back on the pistol grip; the butt group will slide out of tongue-and-groove locking and may be withdrawn from the receiver. All parts are now accessible for further dismounting.



Bren Gun, Field Stripped

tion: forty-two degree traverse. Actual barrel length is about twenty-three inches. Length overall with flash hider is about forty-nine inches.

Sights are offset to permit aiming past the magazine, which is mounted on top of receiver. Front sight is a fixed post centered between protecting metal ears. Rear sight on the Mark I is an aperture sight which is set by turning the range drum. As the drum is turned, the range in yards may be read on its surface. It will give ranges from 200 to 2,000 yards in fifty-yard clicks. The Mark II adjusts from 200 to 1,800 yards. There is no windage on these sights. (Note: New type rear sights are now being provided on Bren guns, but only the earlier types are likely to be encountered on Jap-used guns.) Magazine is a double-column box mounted on top of receiver. Capacity is thirty rounds, but gun works better with twenty-six or twenty-eight.

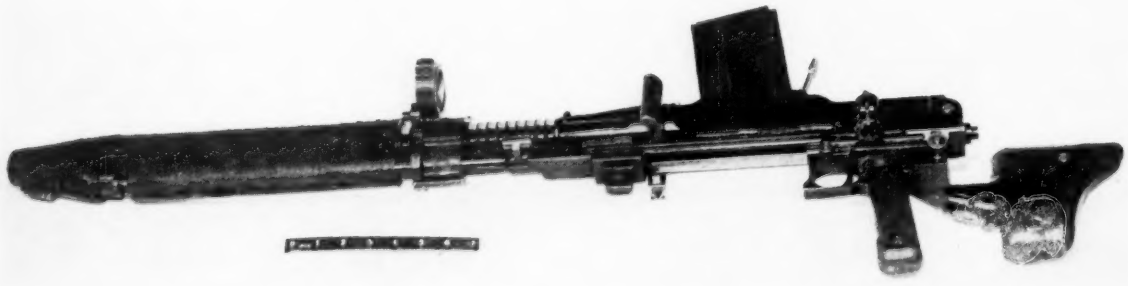
The cyclic rate is low—from 450 to about 550 per minute. This is nearly the ideal rate for such a weapon. Magazine replacement is so fast, and cooling so good, that trained British crews can deliver 200 rounds per minute or better when required. However, the gun is normally fired in bursts.

DESIGN: The Bren, as probably everyone knows, was developed at Enfield, England, by British ordnance experts directly from the Czech Zbrojovka Light Machinegun. The Zbrojovka works, where the original gun was manufactured, is at Brno, Czechoslovakia. By combining BR with EN, a pronouncable name, the BREN, was happily hit upon.

The quick change barrel is a big feature of this weapon. It permits continued firing by changing and cooling hot barrels. It also permits ease of cleaning—a matter of interest to every Marine. A second fine feature of the Bren is that you don't have to spend time, care and language which should be reserved for the Japs on adjusting headspace. While there are comparatively few *parts* in the weapon, there are so many *working surfaces* that this gun is a difficult one to manufacture. Something over 550 gauges are required to check the Bren. Some of the gauging operations require accuracy ranging from 1/500 to 3/10,000 of an inch.

The receiver gets its start in life as a forty-pound forging, which is heat treated. By the time it has been whittled down to the point where it will receive and function the parts which go into it, it has passed through close to 300 machining operations. Its final weight is a little over five pounds. Any time you find yourself getting *too* complacent about the enemy, recall these figures and remember that the Japs are now making modified Bren guns. Don't underestimate the Japs!

Jap Tank Modification of the Bren (97)



This gun is used in Jap tanks quite extensively. It uses the Jap 7.7-mm rimless cartridge *only*. The barrel is heavy and has cooling rings extending to within a few inches of the muzzle.

The gun weighs twenty-four pounds and comes equipped with a peep rear sight. A one and one-half power telescope is usually mounted on gun.

The magazine is positioned on top as in the Bren gun. Operating handle and safety are on the *left* side. Firing is *full automatic only*.

LOADING AND FIRING: Mount magazine as for Bren Gun. Pull back the operating handle on the left side of the gun until the sear catches and holds the action back. The gun is now ready to fire when trigger is pressed. This gun, like the Bren, will stay closed when the last cartridge has been fired.

DISMOUNTING: (1) Push out the receiver locking pin at the rear of the receiver on the left side. The back plate may be removed from the receiver.

(2) Press down the locking catch on the collar stop of the operating spring. The stop may be lifted out.

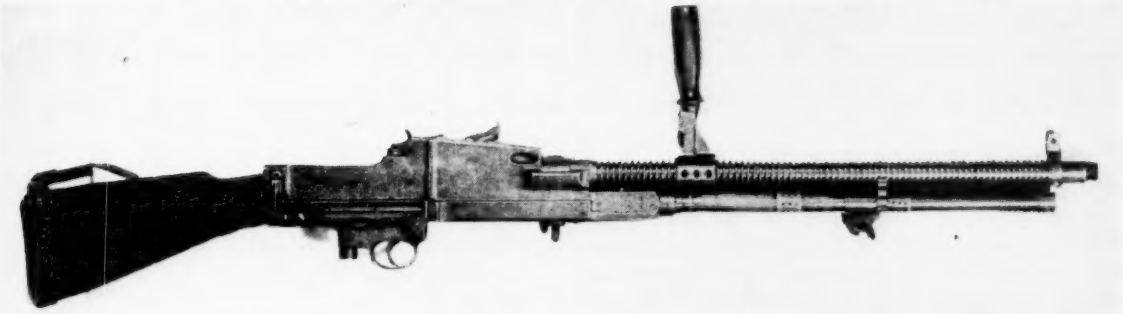
(3) The piston, slide, and bolt assemblies may now be slid out the rear of the receiver.

(4) Press the barrel-lock nut catch projecting below the receiver straight down. As the barrel-nut is freed turn it up as far as it will go.

(5) Slide the barrel ahead out of the receiver.

Note: This gun is *not* a Bren *copy*. It is a Jap modification.

Czech (and Chinese Copy) "ZB" Gun, Cal. 7.92-mm



The last ground type of LMG of general Bren construction is the original "ZB" from which the Bren was developed. During the 1920's, the Japs bought some of these guns from the Czechs. Later they captured many from the Chinese, who had not only bought some from the Czechs but had also turned out quite creditable imitations in their own little roving gun shops.

These guns use the German service 7.92-mm cartridge. China has so much equipment purchased from Germany and Czechoslovakia before the start of World War II that it has been necessary for us to manufacture tremendous quantities of 7.92-mm ammunition in this country to keep China supplied!

IDENTIFICATION: The "ZB" may be instantly distinguished from the Bren, which it closely resembles in outside appearance, by the fact that the *barrel has cooling rings* running from the receiver almost to the short flash hider. (The Bren barrel is *smooth* and has a long flash hider.)

Another distinguishing mark is the *rear sight drum.* In the "ZB" this is mounted on the side of the receiver opposite the magazine opening, forward of the trigger guard. (In the Bren this drum is mounted well behind the magazine opening, to the rear of the trigger guard. In the Jap 96 and 99 it is mounted still further to the rear.)

LOADING AND FIRING: (1) Mount magazine as for Bren Gun. (2) Pull operating handle (on the right side of receiver same as in Bren) back until the sear catches and holds the action open. Then push handle forward. (3) Set selector switch (on left side as in Bren Gun): Fully forward is "full automatic;" vertical position is "safe;" full to the rear is "single shot."

DISMOUNTING: (1) Push out receiver locking pin as for Bren Gun. Pull back on the pistol grip and the frame and butt assemblies will come out. (2) The piston, slide, and breechlock will fall out the rear of the receiver. (Note that this differs from the Bren takedown.) (3) Press in the spring on the barrel-nut catch as for Bren, then turn the catch up to the right as far as possible. (4) Turn the barrel carrying handle up and slide the barrel out to the front.

These guns measure about forty-five and one-half inches over-all. Barrel length is about twenty-three and three-quarters inches.

All the guns discussed in this article are in general use by the Japs. Samples of all of them have been captured by our forces and by the Australians. You may encounter any or all of them.

If you read just enough about them, study the pictures just enough to learn how to identify them and use them in an emergency, you may be buying yourself a very cheap insurance policy.

Smooth Bore Gunnery Practice, 1807

The accuracy with which a muzzle loading smooth bore cannon could fire a ball is a matter frequently discussed by those interested in naval warfare up to the period of the rifled shell gun. Some light is shed on the question by the results of a test made December 31, 1807, and reported in the Navy Department Archives, Captain's Letters No. 10, vol. 3.

On that day Captain Isaac Chauncey, commandant of the New York Navy Yard, and several other officers, aboard a gunboat anchored close in by Staten Island fired at a yard-square flag set up against a high bank on the Long Island shore. With eight pounds of powder as the charge, nine shots were fired at the target from the thirty-two-pound long gun. Seven shots were fired at a 1,750-yard range. All seven balls struck within an area forty-five feet long by fifteen feet high. Had these shots been fired at almost any vessel then on the merchant marine register each shot would have found its mark either in the hull or rigging.

Two additional shots were fired at a range of 2,200 yards with Chauncey himself acting as pointer. The first ball struck at three o'clock, twelve yards. The second passed directly through the flag.—*The American Neptune,* October, 1944.

New Views on Aerial Observers

Some concrete suggestions for enhancing the value of the aerial observer are advanced in this article, telling what the AO does and what more he might do. ***By Capt. Paul Reese***

BASICALLY, while air-borne and reconnoitering and observing over the scene of action, the job of the Air Observer is to report to the headquarters or command ship on enemy activity, the terrain, and on the progress of friendly ground forces from the time they leave the transport area until the island is secured. Hence the AO is intrinsically tied in with the primary mission of the Marine Corps. He is the "eyes" for the amphibious operation. Here it should be pointed out that, while Corps personnel and working for Corps, the AO serves many other commands. To consider the typical setup in an amphibious operation, the AO reports by radio to the Commander Support Aircraft (CSA) who is on the headquarters or command ship and who controls Close Support Aviation for all-over commander of the amphibious operation, that is, the commander of the Task Force. As the AO reports, his information is simultaneously available to all commands monitoring the (Support) Air Observer radio net and, through the CSA, any and all these commands may request missions of the AO. Principally these commands include the Commanders of the Task Force, of the Attack Force, of the Expeditionary Troops, of the Transport Group, and of the Landing Force. The reason that the AO reports to the CSA, and not to the Commander of the Landing Force (i. e., Corps Commander) is simply because all aircraft working over the landing area automatically come under the control of the CSA. However—to insure closed liaison between Corps and the CSA and on the principle that people who know the job can better direct it—recent practice has been to have on the command ship a Corps AO working with the CSA and manning this (Support) Air Observer net.

Missions Prior to D-Day

In regard to the actual functioning of the AO, missions that may be requested of him prior to D-day are:

1. To determine the condition of surf, reefs, and beaches, including, if possible, the presence of obstacles on beaches and reefs, and the physical consistency of the beach.

2. To verify terrain information, or information found on aerial photographs.

3. To locate suitable targets for immediate air strikes, or for naval gunfire.

While on station during a landing operation, the AO reports by radio to the headquarters or command ship. The AO is a first hand, on the scene source of information to give flash reports on:

1. The progress of the landing craft from the rendezvous area inland to the beach.
2. Landing of LVTs and armored vehicles and supplies.
3. Friendly troops, such as progress of troops inland, front line locations, direction of movement, locations where flame throwers are used.
4. Any type of enemy activity—location of anti-boat guns; artillery; amphibious reserves capable of counterattacks; bivouacs; observation posts; mechanized forces; massed troop concentrations; defensive installations; dumps.
5. Results and effect of naval gunfire.
6. Shipping, friendly and enemy.
7. Damage to landing craft.
8. Condition of landing beaches, flow of traffic.
9. Results and effect of Close Air Support.
10. Weather, hydrographic conditions.

In addition, at this time the AO is on station to carry out any other mission requested of him by the headquarters or command ship.

When the Beachhead Is Captured

After the beachhead has been seized, the AO, who has a commanding view of the terrain, continues on station to report on the front line locations of friendly troops. Moreover, he constantly and intensively searches for enemy activity. An AO plane in the air from sunrise to sunset, besides being an offensive for a quick strike, restricts the enemy from moving about without probably being observed. Furthermore, it boosts the spirit of our troops to see friendly planes overhead. Here is a random sampling of missions—in addition to those already pointed out that apply—that might be requested of the AO after the beachhead has been captured.

1. The headquarters or command ship may ask for appropriate targets for air strikes; or, similarly, the AO designates targets for naval gunfire.
2. The AO is often used to contact friendly patrols.
3. Sometimes the AO makes message drops either to patrols, friendly natives, or such.
4. Often the AO is asked to describe weather conditions in certain areas.

5. AOs drop flares; for example, to indicate the position of waves in a landing operation.

6. As a secondary mission, AOs can check camouflage and camouflage discipline of friendly troops.

7. If a regular artillery spotter is not available, the AO can adjust fire for the artillery.

8. Occasionally, the AO is called upon to direct naval gunfire.

9. Prior to an attack in an area the AO may be instructed to reconnoiter the area and to describe any activity and the terrain there.

10. Frequently the Aerial Photography Interpretation Officer sends requests for the AO to verify information found on aerial photographs.

11. To locate mines in the water.

There then, is the job of the AO. Its importance is obvious. In combat the AO has, emphatically and repeatedly, proved his worth. Accordingly, on all recent Marine amphibious operations in the Pacific AOs have performed commendably.

Inclusion of an AO Section

In recognition of these facts, therefore, it is urged that the T. O. of the Amphibious Corps be changed to include an AO section. Such an addition to the T. O. would furnish the Corps Commander with another potent weapon to support the Corps in carrying out its primary mission.

The AO section should be in a Corps, rather than Division, headquarters, because getting information from *its* observers, Corps can then pass this information down to its subordinate units; moreover, if observers are Corps personnel, Corps can give them direct orders without reference to subordinate units. In addition, to quote *III PHIB CORPS report on Guam Operation,* "In operations where successive landings are made duplication of personnel can be eliminated if the observers are Corps personnel in that the same observers could do the observing for each landing; and, if the necessity arose, observers would be available for attachment to divisions or other units."

In combat this AO section would execute the missions discussed above. And here is something else new for the Marine Corps. In a camp or barracks situation, the officers of the AO section—in addition to studying and training for their combat mission—would act as recognition officers for the Corps teaching recognition classes to any unit, platoon or above, requesting such instruction. In other words, the AOs would have a secondary job as Corps recognition officers. In addition, if so requested, they could help the Division Air Officers train Air Liaison Parties for the divisions.

Based on the experience of III Amphibious Corps AO section, it is recommended that the Corps AO section consist of from six to eight officers. At Guam III Amphibious Corps had seven AOs, yet some of these observers flew eight and nine hours a day on occasion. At Peleliu four AOs were used and the same was true, especially after one AO was wounded. (In addition, two AOs were on the command ship on this operation to monitor the AO radio net.)

When III Amphibious Corps began its AO section, it required that all applicants have:

1. At least one year of experience with an infantry or artillery unit in the field.

2. A good understanding of infantry tactics and of amphibious operations.

3. The rank of Captain or Major.

4. Moreover, the candidate had to be "airworthy," that is, physically fit for flying.

The training of the prospective AO must include a diversified number of subjects. None of our armed forces has a school that teaches all of these subjects, though at one time the Navy did conduct a Naval Aviation Observer School. Likewise, the Army once operated an air observer school. At this writing there is no air observer school maintained by any of the armed forces of the United States, through the Royal Canadian Air Force, Australian Air Force, and New Zealand Air Force still maintain AO schools. There may be others, but the writer has no information concerning other foreign armed forces. At present the closest related American schools that exist are the Marine School for the O. P. (Artillery Spotting) and the Army Liaison Pilot School, also for Artillery Spotting. However, the AO requires much more training than the Artillery Spotter. The training of the AO takes in that of the Artillery Spotter and then goes beyond it into a training of a different type. Consequently, neither of these two schools offers sufficient training for the AO—and, of course, neither is supposed to, not having been intended for that purpose.

Establishment of a School

Surely it is at once apparent that if the Marine Corps should add an AO section to each Amphibious Corps, it should also establish a school to insure uniform and adequate training for these officers. Excellent facilities for such a school already exist at any of the Marine Air Bases on the West Coast where flying conditions are excellent, where neighboring training centers could supply troops and terrain for training exercises, where the

California coastline and San Clemente Island offer excellent locales for studying landing operations, hydrographic conditions, shipping and recognition, and map problems.

If such a school were established, its curriculum should include these subjects, among others:

1. A refresher course on infantry tactics and amphibious operations.
2. Recognition and how to teach it—ships, aircraft, landing craft, mechanized vehicles. This course should resemble the Navy course now taught at Ohio State University, Columbus, Ohio.
3. Review of Japanese tactics and techniques.
4. Radio procedure and communications, including a study of the radios in the types of aircraft suitable for observation.
5. Familiarization with all types of air observation planes, particularly the TBF(TBM), including a check-out in the turret and stinger guns.*
6. Refresher map and aerial photography interpretation course.
7. How to spot artillery fire.
8. How to direct naval gunfire.
9. Morse code, blinker, semaphore.
10. Message drops and pick-ups.
11. Training exercises while in the air—such as judging distance, numbers of people; recognition; reporting an amphibious operation; map problems.
12. Weather and hydrography sufficient to describe weather conditions in a certain area.
13. Marine Corps Tables of Organization; a knowledge of what every type of unit has in the way of men, material, and weapons.
14. Pyrotechnics.
15. Camouflage; a practical course as worked in with eleven, preceding.
16. Theory and practice of air observation.
17. Flight equipment—what is needed; how to use it; where to obtain it.
18. Check-out in life raft; survival hints.
19. How to operate aboard a CVE.
20. Bibliography for the AO—familiarization with the publications that the AO needs to know and where and how to get them.
21. Parachutes—and care of.

*Emphasis is placed on the TBF(TBM) because of our aircraft suitable for observation only the TBF(TBM) is used aboard CVEs from which the AO operates during the early part of an amphibious operation. The AO rides in the "greenhouse," i. e., cockpit behind the pilot. Simply by bracing himself properly while in the "greenhouse," the AO can be catapulted from and landed on a carrier even without a safety belt. In less than five minutes a junction box can be installed in the "greenhouse" for radio comunication. Merely by turning a switch on this junction box the AO can transmit and receive on inter-communication system (ICS), modulated high frequency (MHF), or very high frequency (VHF).

For suggestions and constructive criticism in the writing of this article the author expresses his thanks and indebtedness to Colonel Frank C. Croft, Air Officer, III Amphibious Corps.

22. Terrain studies.
23. Aerial gunnery.
24. Introduction to air navigation.

That is merely a list of suggested subjects, not arranged in order of importance. It is by no means complete. On the other hand, listed are many subjects giving information the AO may seldom or never need.

Thus far this article has discussed what the AO has to do. Now for one concrete suggestion on what can be done for the AO. After he has satisfactorily completed his training, award him the designation of Naval Aviation Observer** which would permit him two privileges; first, wearing Naval Aviation Observer wings†; second, monthly flight pay of sixty dollars. That would be fair reward.

To summarize, this article does *not* claim that the AO is any cure-all or magic answer for the problem of keeping higher headquarters informed as to the situation. Instead, for all the reasons brought forth in the foregoing, this article contends that he does simplify that problem. Accordingly, in actual combat, the toughest of proving grounds, the air observer has been accepted and recognized as another one of the many potent weapons that the Marine Corps has with which to carry out its primary mission. Therefore, it urges that:

1. The T. O. be changed to add an AO section to each Amphibious Corps.
2. A Marine school be established to train these air observers.
3. Marine officers graduated from such a school be designated Naval Aviation Observers.

**Just as Marine Corps pilots are technically Naval Aviation Pilots; so too, Marine Air Observers are technically Naval Aviation Observers. The qualifications for Naval Aviation Observer, as specified in *Bureau of Naval Personnel Manual*, Part E, Ch. 1, Sect. 2, Art. E-1201(4). "A naval Aviation Observer is any commissioned or warrant officer in the Navy or Marine Corps who has successfully completed the course prescribed by competent authority, and who has been in the air not less than 100 hours and who has been designated Naval Aviation Observer by competent authority."

†Only other existing wings that the AO could possibly wear are the Air Crewman's wings, and *Letter of Instruction 558* precludes this possibility by requiring that wearers of Air Crewman's wings be regularly assigned members of a combatant aircraft, which is out of the question for the AO who flies frequently but in neither a regularly assigned aircraft nor with a regularly assigned squadron.

How Staff Officers Are Trained

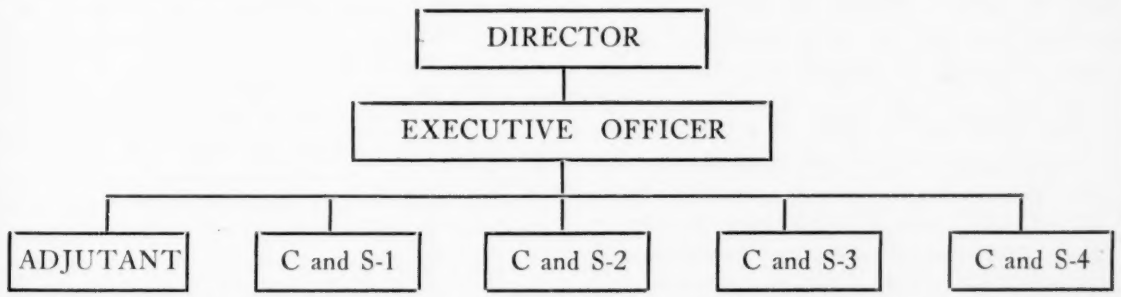
This article is presented to acquaint officers of the Marine Corps with their senior school, the Command and Staff School of the Marine Corps Schools. ***By Lt. Colonel M. S. Currin***

BECAUSE of its rapid expansion, the Marine Corps during the early days of the war developed a shortage of qualified staff officers. The Marine Corps Schools, aware of this situation, initiated correspondence relative to the matter with Headquarters Marine Corps. In the field, senior commanders were confronted with this problem, and recommended that classes to instruct officers in general staff functions be organized in the United States.

On February 16, 1943, the Commandant, Marine Corps Schools, received a letter from the Commandant, Marine Corps, directing him to organize a Command and Staff Course at the Marine Corps Schools for the purpose of equipping officers "to perform efficiently the duties of the four executive staff sections in the Marine battalions, regiments, and divisions."

During the first four classes, the school operated directly under the control and supervision of the Assistant Commandant, Marine Corps Schools. Instructors were provided from the four executive staff sections of the Marine Corps Schools and the subordinate schools.

In March, 1944, the Commandant of the Schools decided to establish a separate staff for the Command and Staff School. An officer of the rank of Colonel was assigned as Director and provided with suitable assistants. The diagram herewith shows the staff of the Command and Staff School as authorized by Headquarters Marine Corps.



Authorized—One Colonel, Eight Lt. Colonels, Six Majors, Three Captains, One Lieutenant (WR)

The Director, under the direction of the Commandant, Marine Corps Schools, has charge of the instruction and administration concerning instruction in the school. He assigns instructors to sections, approves curricula, and allots instructional subjects. It is his duty to see that the course is conducted in accordance with the program as approved by the Commandant, Marine Corps Schools. The Director prepares the schedule and closely follows the conduct of the course with a view to observing student reaction, and takes or proposes corrective measures for improvement.

Please don't get the impression that the command and Staff School is a separate entity. Its staff functions in close cooperation with the four executive staff sections of the Marine Corps Schools, and calls upon the Schools' special staff officers for instruction in their specialties; i. e., artillery, signal, and medical.

The section chiefs of the Command and Staff School, all of whom are of the rank of Lieutenant Colonel, initiate, coordinate, and develop such subject matter and related studies as will insure proper instruction in accordance with directives. Each section is required to examine thoroughly all related texts and reports, and incorporate in its instruction the latest professional doctrines and trends. In that connection, instructors visit, among others, such activities as the Command and General Staff School, Leavenworth, Kansas; the Infantry School, Fort Benning, Georgia; the Naval War College, Newport, Rhode Island; Amphibious Training Command on the West Coast, and Headquarters Marine Corps. These visits, to keep abreast of the latest developments in modern warfare, coupled with a thorough study of plans, orders, and special action reports

from units in the field insure the best of instruction. The policy of the school, as of all the schools in Quantico, is one of progressiveness. Headquarters Marine Corps keeps a close watch on the needs of our Divisions in the field and from time to time issues directives to the Commandant, Marine Corps Schools, to make such changes in the curricula as will better accomplish the mission of the school.

Officers ordered to the school are of the rank of Captain, Major, and Lieutenant Colonel. In addition there are officers of the United States Army and Navy, and also officers from the Allied Nations. For example, in the present class (seventh) there are forty Marine officers (fourteen Lieutenant Colonels, eighteen Majors, and eight Captains), six U. S. Navy (two Medical and four Line Officers), four U. S. Army, one Australian Army, one Royal Netherlands Marine, one Royal Marine, one British Army, and one Canadian Army, making a total of fifty-five officers.

The course lasts for three months. However, it is the plan of Headquarters Marine Corps to lengthen the course to six months and then to nine months, when the exigencies of the service permit. Students, with certain exceptions, report two days before the course starts. The exceptions are the Naval and Allied Officers ordered to the school. These officers report three days before the class starts in order that they might attend a two day orientation course. This course is given primarily for these officers (others may attend if desired) in order to briefly review Marine Corps Organization and certain other basic subjects which usually are unfamiliar to them.

Objective—The Success of the Operation

Initially, the instruction is more or less a review, bringing back to mind the fundamentals such as Organization of the Marine Corps and its various components, Map Reading, Terrain Appreciation, Principles of Offensive and Defensive Combat, and so on. With all these subjects, officers are more or less familiar, but in order to have everyone working on common ground instruction is given.

However, this being a Command and Staff School, the main stress is placed on the duties of the four executive staff sections as well as the duties of the special staff. The duties and functions of all staff officers, both executive and special, are emphasized, but particularly the absolute necessity for coordination and cooperation of staff members in order to achieve the main objective—the Success of the Operation.

Officers of appropriate rank desiring to attend this school may submit letters, through official channels, to the Commandant Marine Corps, requesting this duty. Officers ordered to the school are carefully selected by Headquarters, keeping in mind the duties performed by these officers and the probable needs of the Corps. Advance notice is sent to the Director of the Command and Staff School. On receipt of this information, the Director mails a circular to the prospective student telling him, in general, items of interest such as the quarters situation, the facilities at Quantico, what to bring, and so on.

How Instruction Is Presented

Instruction is given by the standard method of explanation, demonstration, application, examination, and discussion.

The subject matter is thoroughly prepared by the instructor and then presented in one of two ways—either in the form of a lecture or a conference. In lectures, which are held to a minimum, the instructor does all the work and the students listen. In the conference, the subject matter is presented by the instructor and then discussed with the class. During these periods illustrative problems and pertinent examples from recent operations clarify the subject matter and add interest to it. In addition, during the discussions, officers who have had practical experience in the field are encouraged to air their views on the topic under discussion so as to benefit the rest of the class.

After the instructor has explained and demonstrated, the student is given an opportunity to apply his knowledge. Certain required problems are given from time to time to test the student's progress and to give the Director a basis for grading the student. All of the instruction, with the exception of a few demonstrations, one Terrain Exercise and two Command Post Exercises, is given in the classroom.

The following problems are the highlights of the course:

(a) Regiment In The Attack—fifteen and one-half hours.

This is a map problem in which the students are required to prepare plans and submit recommendations as staff officers of the battalion and regiment. Emphasis is placed on the S-3 and S-4 sections.

(b) Regiment In the Defense—ten hours.

This is a terrain exercise in which the student is required to select a MLR, site infantry weapons, select OPs and CPs, select positions for artillery and point out the location of antimechanized barriers.

(c) CPX—Regiment—ten hours.

Students are assigned as staff officers of battalion and regiment and function as such in a simulated attack.

(d) CPX—Regiment—forty-five hours.

Similar duties as in (c) except this involves an amphibious operation.

(e) Attack on Enemy Held Territory—106 hours.

This is the big staff presentation of the course. Students are required to submit a G-2 Estimate, Commander's Estimate, Corps Operation Plan, Task Organization and a Landing Team Operation Plan. The various annexes are presented by members of the faculty.

(f) Defense of a Base—fifty-four hours.

This is a map problem in which the student learns of the duties of a staff officer in connection with planning for the defense of an island base.

(g) Jungle Warfare—11 and one-half hours.

This is a map problem that illustrates the problems confronting a staff officer in Jungle Warfare. The student is required to perform certain duties of the members of the Regimental Staff.

(h) Project Problem—forty hours.

This is a problem unique in service schools in that no school solution is presented. The class is divided into five committees. The students in each committee comprise a CG of a division and his staff. Each committee is assigned the same attack mission and then using intelligence available prepares plan, orders, and annexes just as though it were an actual operation. Ample time for discussion of the solutions is allowed.

In addition to the material presented by the school staff, guest speakers from other schools and activities appear before the student body from time to time. These guest speakers are authorities on the subjects which they present. For example, the subject of Civil Affairs was presented by an officer from the staff of the School of Military Government at Charlottesville, Virginia; the subject of Airborne Troops by an officer from the Airborne Center at Camp Mackall, North Carolina; and the subject of the Chinese Army by an authority from the Office of Strategic Services. Other speakers come from the Military Intelligence Division, U. S. Army; Headquarters U. S. Marine Corps; Navy Department, and other activities.

Map knowledge gained in classes is used by staff students during a simulated attack.

As was mentioned earlier, instructors visit the various service schools to keep abreast of any new developments at those schools. In addition, the Command and Staff School also tries to send an instructor to observe operations in the combat theatres. This is done in order to see first hand how the instruction that is put out in the schools ties in with the way it is actually done in the field. On his return, the observer submits his report and lectures the student body on the result of his observations. The School had such observers on the Saipan operation and on the Palau operation.

The student's progress is carefully observed during the entire course and recommendations for future assignments, based on these observations, are made by the Director to Headquarters Marine Corps. Usually, graduates are assigned to overseas duty in command and staff jobs.

In conclusion, let it be remembered that the mission of this school, which is to train staff officers, is of paramount importance to the Marine Corps and this mission is being accomplished (a) by sending selected officers to the school, (b) by assigning experienced officers to the staff and (c) by the school's policy of always moving forward.

Speeding Repairs by Microfilm

Invaluable time and money are being saved by the use of microfilm in speeding ship and plane repairs at distant bases. Previously damaged ships and planes frequently had to delay repair work until the necessary blueprints or drawings could be sent from home yards or from Washington. Such prints and drawings frequently weighed a hundred or more pounds. Now they are simply microfilmed and the resulting film rushed to the distant repair base.—United States Naval Institute Proceedings, November, 1944.

Graves Registration

The task of counting war casualties is an unpleasant one, but it is handled with meticulous care in view of what it means to the families and relations of Marines lost on distant fronts. *By S/Sgt. Bill Miller*

COUNTING war casualties is a grim job, one that most of us prefer to forget, and there is more to it than adding up the numbers of men killed, wounded, missing, and captured. The dead casualties must be identified; their next of kin must know how and when they died, and where they are buried. The wounded casualties, evacuated in all directions by plane and ship, must be traced, reported, and kept track of until they return to duty or go back to the States.

It also is a job that never can be finished. As soon as a beachhead is won, a cemetery must be laid out and graves must be marked and charted. At present, Marines killed in this war now are buried in nearly fifty cemeteries on twenty-five islands and one continent of the Pacific.

Casualty Section Responsible for Work

The details of this task are under the direction of the Casualty Section at Marine Corps Headquarters in Washington, whose work now is supplemented by the Casualty Section of Fleet Marine Force, Pacific, organized July 26, 1944, in the midst of the Marianas operations. Part of the FMF section is Graves Registration, which keeps files and charts of all Marine cemeteries and records of burials at sea. Its job is to know where every Marine is buried and to make sure that his grave is marked properly.

Pacific distances and communications being what they are, any regiment or division does well indeed if it can report during an operation all the men who are killed in action or die of wounds. In most of the campaigns up to and including Tarawa, even the deaths were not reported while fighting continued. The Peleliu operation set new records for casualty reports. The first list of men killed in action was dispatched on September 23, or D plus 8.

In an average Marine operation, from twenty to thirty lists of men killed in action or dead of wounds are sent to Washington by radio, and the earliest of these report only those killed in action. Original dispatches go to Washington, and information copies go to the FMF section. These dispatches give the name, rank, and serial number of each man who dies in battle. This information, used in notifying next of kin, is later supplemented by notifying reports of death, standard Marine Corps forms which tell how each man met death if the circumstances are known, the date of his death, and the place and date of his burial. Form N, naval death certificate signed by a surgeon, gives further information on the man's wounds and the treatment he received. These certificates are submitted by evacuation ships for men who die at sea, giving the latitude and longitude of the burials.

Each division has a graves registration section or platoon, which goes ashore soon after the initial landing. Its job is to take care of all Marine dead, as well as the dead among Army, Navy, and Allied personnel. These men are specially trained. Among other things, they are taught map reading so they can report exact location of isolated burials. These are sometimes necessary for many reasons, but every effort is made to re-inter all Marine dead in a permanent cemetery after hostilities cease. There were many isolated burials during the jungle campaigns of the Solomons. This was true on New Georgia, where the Army later established a single cemetery to which most of the Marine dead have been moved, including those from Rendova and Enogai Point. There were three cemeteries on Bougainville, but the Army has combined them into one which is said to be the most beautiful in the Pacific.

Both Christian and Jewish crosses go ashore with the graves registration platoon, which works in cooperation with the chaplains. All men are given religious burial. Procedure during battle is to bury one identification tag with the body. the other being nailed to the cross or temporary marker. Later, names are painted on the crosses. All graves are charted, as in any cemetery, and from these charts the FMF section prepares maps showing exact locations of the graves and the names of the men buried there.

Making Identification Difficult

Neglect in wearing identification tags causes the greatest difficulty in checking identity of Marine dead. Names stamped on clothing and laundry marks are not always positive identification, since some men will wear borrowed clothing. There have been instances where men were killed wearing other men's identification tags. Whenever identification is in doubt, every possible source of information is checked. Fingerprints are taken, teeth and scars are checked, and all data is sent to Washington for final identification. Letters are often received from relatives who refuse to believe a death report. Sometimes they receive letters postdated after his death, letters which he may have

given to a friend to mail for him just before going into action. Sometimes there are reports that a man was seen after he was reported dead. In such cases a thorough check always is made. If the files and burial charts show that the man is dead, a final check is made with his outfit to make sure there is no error.

In most battle deaths, the FMF section's work is chiefly for FMF personnel records; however, it does report many deaths to Washington which are not reported through the usual channels. Its most important job is a new system of reporting wounded casualties, a system which has proved superior in many respects to the lists sent in by divisions and regiments. Among other things, it has shown that in Pacific warfare the forward echelons cannot report their own wounded with any degree of accuracy or speed.

For example, a Marine platoon on Peleliu had five men wounded during the initial beach assault. The lieutenant in charge reported their names and serial numbers to his CP. He saw the men fall under fire and personally directed their evacuation to a transport offshore. His report was accurate and prompt. No outfit reports its casualties better than the veteran First Division, but the island was secured long before its list of wounded reached Washington. Weeks before the division's report on wounded was transmitted, Marine Corps Headquarters knew that four of those five men had returned to duty after hospital treatment, that the fifth man had died aboard an evacuation ship and was buried at sea. It knew how they were wounded, the nature of their wounds, the date of the one man's death, when the others were received at evacuation hospitals, and when they were released. All that information, and more, could be given anxious relatives.

Keeping a Check on Hospitals

Realizing that neither forward nor rear echelons of a division can keep adequate check on wounded men who are evacuated, the FMF section sends its PLGs (personnel liaison groups) to all hospitals where wounded Marines might be taken. It operates on the reasonable assumption that all men whose wounds are at all serious will eventually reach a hospital. There they are interviewed by PLGs and full information is sent promptly to Washington. These hospital reports,

It is the task of Casualty Section's Graves Registration to know where every Marine is buried in nearly fifty Pacific cemeteries such as the one shown here.

with reports from evacuation ships, provide a fairly complete check on Marine wounded. Information secured in this way is usually far in advance of official lists of wounded.

Frequently, men reported wounded and evacuated fail to turn up at any hospital. Some of them return to duty after treatment aboard a transport and are never actually evacuated. Others may recover sufficiently from their wounds to be put ashore on another island where there are medical facilities but no hospital. Some 2900 men were lost to the records in such ways just after the Marianas operation. Checking with their outfits, the FMF section found that more than half of them had returned to duty.

There are men who disappear completely during an operation, which is not unusual in modern war. They are usually reported as missing, but in nearly every case may be assumed to be dead. When a plane fails to return and its crew is reported missing, there is always a chance they will turn up somewhere, but there is no such chance for ground troops fighting on a small island that can be thoroughly covered. Nevertheless, in addition to its regular reports, the FMF section is engaged in a continual combing of the Pacific for men who may or may not be among the living. It is a long and sometimes fruitless task, but occasionally a man is found or a body is identified, ending months of anxiety for relatives.

There is never a lull in the checking of casualties, or at least there has been none so far in the short history of the FMF section. It has no need to stand by when a new operation begins, since it is still working on the cost accounts of the last campaign. The task is endless, unpleasant, and seemingly thankless, but the men who have a part in it know what it means to Marines and their families, and that is enough for them.

Be a Gas Miser and Stay Dry

Gas is lifeblood to planes taking off to make a strike. By sudden unexpected events, tanks are quickly drained—chance enemy skirmishes, deck crashes that keep other planes upstairs, slips in navigation.

Being a miser with your fuel probably doesn't mean much to you while you're still in the States. But it's a long way between filling stations at sea, and the water is plenty wet, deep, and salty in between. So, when you start operating from a carrier, or from some South Pacific island, the gasoline in your tank is going to be worth more to you than gold, platinum, and diamonds all put together.

When you're operating from a carrier, or over a jungle, this business of fuel economy is no joke. You will be expected to fly your hops without using any more gas than the best man in your flight. This means good formation flying so that you can stay where you belong without pumping your throttle back and forth every few minutes. Also, it means knowing the best practical power settings for your engine for various loading conditions, and for altitudes at which you will be required to operate to maintain required speeds with minimum fuel.

On a combat mission you will have just so many gallons to reach your target, fight at high power, and get back home. And for some peculiar reason most of the targets will be at just about the extreme limit of the operating radius of your plane. When you are actually fighting you may have the throttle against the stop, but it's a cinch you won't have time to worry about the amount of fuel you're burning. You'll burn it fast, all right! Consequently, any time you are in a combat area, or are making a long hop, you'd better play it on the safe side and operate economically while you can.

Of course, all your hops will be scheduled to bring you back with a reasonable margin of safety—say thirty to forty gallons to spare. But things happen every now and then. You may make a slip in navigation. Or there may be a deck crash that will keep you in the landing circle for an extra half hour. Or, as happened to one squadron, just about the time you get in the groove to come aboard, a flock of Jap dive bombers and torpedo planes may come in to work the carrier over. You may have been patting yourself on the back because you still have twenty gallons left, but if you have to fight with it, or, if your ammunition is gone and you have to fly off ten or fifteen miles and sweat it out until the attack is over, that twenty gallons will disappear in no time.

All this adds up to the simple fact that you can never count on being able to land when you expect to. You must always be prepared to fly that unexpected extra hour or fly full power when chasing a "snooper." If you don't hoard your gas like a miser, your chances of getting a dunking and losing a valuable airplane are excellent.

If you are saving, you'll make it your business to learn what maximum endurance and maximum range air speeds are for your airplane at various loadings. You'll also learn corresponding power settings for your plane. Learn gas economy the cheap way while you can, before you have to know it—not the expensive way, after it's too late.—From *Naval Aviation News*.

Effective Orientation

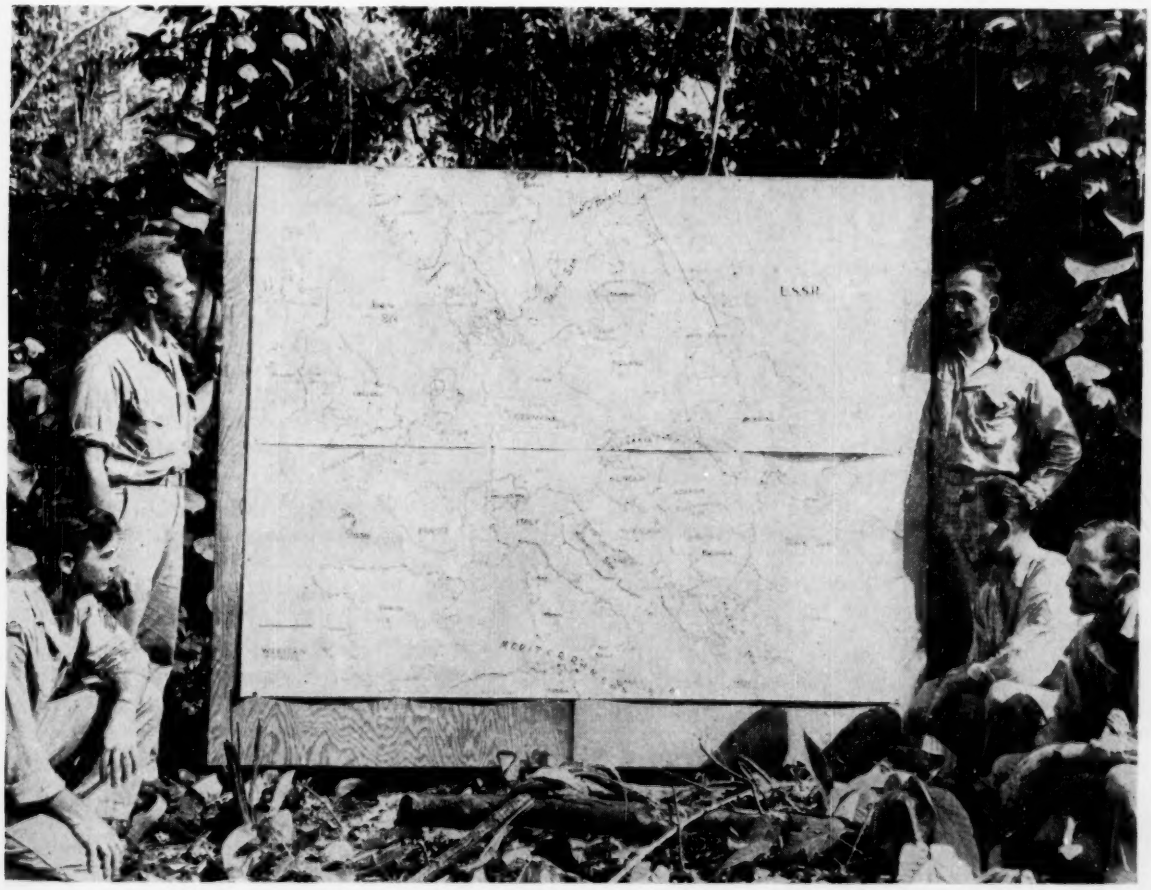
How an aviation squadron on a tiny Pacific island received a better understanding of the war, its causes, and the purposes and ideals for which it is being fought. ***By 1st Lieutenant Montgomery Ostrander.***

ON THE theory that troops perform with greater zeal and efficiency when motivated by well founded convictions regarding the purposes of the war, and are well informed about its progress, the Marine Aviation Squadron known as Ali Baba and the Forty Thieves, instituted last summer its own orientation program in the field. The value, while campaigning on a tiny and isolated Pacific island, of bridging the gap between the dull and unglamorous day to day life and the end purpose in fighting the war seemed especially apparent. The gap assumed even greater breadth with the realization that, for a very large number of men, the rise of Hitler, the days of Munich, and the China Incident, all harbingers of Pearl Harbor, are in a somewhat distant past. For example, a Marine of twenty years of age in 1944, was only fifteen when Hitler's storm troops blitzed their way across the Polish frontier and England declared war.

Marines reject anything that smacks of propaganda, but do want to know what is going on. Consequently, avoiding the shibboleths and catch phrases of the professional flag waver, an endeavor was made to educate personnel by providing unadulterated factual information, but at the same time to personalize the larger issues through promulgating the idea that each Marine is a citizen of a democracy as well as a fighter.

The first step in accomplishing this task was the appointment of an Orientation Officer.

The next step was to use all local resources to keep enlisted personnel informed of current happenings. A large bulletin was erected. On it



The end purpose of the war of which they are part is made clear to Marines who take part in discussion activities such as the above meeting in the Pacific.

were placed the current Newsmaps distributed by the Educational Services Section of the Bureau of Personnel of the Navy Department, newspaper clippings of matters pertaining to the war, daily news briefs prepared by the squadron intelligence officer, and occasional special maps of fighting areas prepared by him. In addition, the intelligence officer kept the battle lines up to date daily on the maps. For interpretation, and better understanding of the news, a table, displaying books about the war, was placed near the bulletin board. Periodically an intelligence officer was asked to give a talk analyzing the progress of the war and the strategy being employed in various campaigns.

The third step was the inauguration of a series of weekly lectures each covering a separate aspect of the events and conflicts that brought about the war. As will be seen from a glance at the list of lectures, the final compilation was an arbitrary one, and unfortunately a great deal of pertinent information omitted. This was partially due to a lack of an adequate supply of reference material. Nevertheless, an officer was assigned to prepare and deliver each talk, using whatever books and other sources that could be found.

The following is a list of the topics discussed:

AMERICA'S TRADITIONS OF FREEDOM

An attempt to provide definitions for the terms "democracy," "freedom," "liberty," "the American way," etc.; description of the origin of the Constitution; enumeration and explanation of the Bill of Rights; the idea that from the beginning the essence of our rights had to be fought for, as now.

ORGANIZATION AND AIMS OF THE UNITED NATIONS

A description of our allies and their government; interests we hold in common that bind us during the war; the text of the "Declaration of the United Nations," with its background of the Four Freedoms and the Atlantic Charter; descriptions of other joint undertakings, as developed out of the Moscow, Cairo, Casablanca, and Teheran meetings, and their possible significance for the future.

THE RACES OF PEOPLE

A scientific dissertation on "races," the significance of the Nazi theories of racial superiority, definition and proper use of the word "race" and the influence of racial prejudices upon prosecution of the war and possible influence after the war.

EVENTS LEADING UP TO THE WAR

A chronological account of the period from Hitler's advent to power to the invasion of Poland, in both hemispheres; the relationship of the events and their relative importance.

UNITED STATES FOREIGN POLICY

A brief history of our foreign policy, its underlying principles, and the influences that have helped shape it at different periods.

GREAT BRITAIN

A description of the people and institutions of Britain, and the part played by Britain in world affairs in the last twenty years.

NATIVES OF THE PACIFIC ISLANDS

The history, customs, and origins of the Pacific Islanders and our possible future relations with them.

VOTING AND POLITICS

A non partisan description of the mechanics of an American election.

DEVELOPMENT OF MODERN JAPAN

Based upon former Ambassador Grew's "Ten Years in Japan," a description of the rise of Japan, and the relationships and conflicts with United States interests that followed.

In addition to the handicaps imposed by the arbitrary breakdown of topics and the dearth of research material, it was found necessary to confine the lecture periods to thirty minutes.

The fourth step in the program has been to exploit whatever information was transmitted by the lectures through the organization of small discussion groups, the aim being to assist the men in formulating their own viewpoints on current and future problems. The discussion groups have purposely been made small to further participation in discussions.

In charge of each group is a Junior Officer and a Senior NCO, the function of whom is to lead and direct the discussion. Each group meets once every two weeks, rotating on the following discussion topics:

1. Should there be a world federation government after the war?
2. Should the poll tax be abolished?
3. What will our relations with Russia be after the war?
4. Should the voting age be lowered to eighteen years?
5. What can we do to solve race problems?
6. Should we join a service organization after the war?
7. Should world peace be based upon the principles of the Atlantic Charter?
8. Are local health problems the responsibility of the federal government?
9. Should the government guarantee us jobs after the war?
10. Should we join unions when we get jobs after the war?

Naturally enough, each of the discussion topics is a controversial question, and obviously, the position of the discussion leader must be unbiased. Nevertheless, the better appreciation that exists of the problems discussed, the greater will be the learning of the meaning of the word democracy.

WE QUOTE

The American Institute of Public Opinion, in a recent survey to determine what the American public thinks about postwar treatment of defeated Axis countries, asked the following question:

"What do you think we should do with Japan as a country after the war?"

A statistical tabulation of replies shows American sentiment as follows:

	Per cent
Supervise and control	28
Destroy as a political entity, split up	33
Kill all Japanese	13
Reeducate, rehabilitate	8
Miscellaneous and no opinion	18

The survey showed that Americans take a far stronger attitude toward the Japanese than they do toward the Germans. Some of the verbatim comments were: "Kill them all . . . Wipe them off the map . . . Clean them off the face of the earth . . . Sink the whole damned island . . . We don't want any rising sun left to set . . . Blast them off the face of the earth; you can't teach them and you can't change them."

* * *

Allied Supreme Headquarters in Paris, in an official statement describing how Germans had murdered 115 American soldier prisoners, asserted:

"All of the battery's personnel were captured and rounded up on a cleared field . . . They were immediately searched for cigarettes and other valuables. Suddenly, for no apparent reason, shots were fired into this group of defenseless prisoners by a German guard. Immediately following this outbreak, two of the German tanks began spraying the Americans with machinegun fire from a distance of about seventy-five to 120 feet . . . As the tanks prepared to depart from the field, they drove past the fallen prisoners, their machineguns pouring additional bullets into those already killed . . . German infantrymen on top of the tanks fired their small arms into the helpless mass."

* * *

German Foreign Minister Von Ribbentrop, in a broadcast commemorating the third anniversary of the Axis military alliance, declared:

"There is no doubt that the war will turn in our favor. There is not an inkling of doubt in my mind that Hitler and Mussolini will save Europe . . . We have only one thought—to fight and strike blows at the enemy until he has had enough to realize that he can never defeat the tripartite powers."

* * *

Touching benevolence of Emperor Hirohito is portrayed in this broadcast from Radio Tokyo for domestic consumption:

"Admiral Shiro Takatsu, war councillor, received a dozen bottles of grape juice from the Emperor at the Tsukiji Naval Hospital at 9:50 last night. The Admiral died at 6:30 A. M. today."

* * *

Joseph Goebbels, press agent extraordinary for Hitler and his works, described Der Feuhrer in a recent issue of Das Reich:

"In his hair there is a slight gleam of silver, the only sign of unnumbered days full of work and anxiety, of nights spent in solitude without any thought of sleep."

Despite the worries of war, Goebbels wrote, Hitler's eyes "beam with youthful radiance."

Describing the obvious: "Never does a word of deception or of base intent cross his lips. He is truth itself."

* * *

Radio Tokyo complains that America spreads only false news, telling only of American victories.

"The difficulty is," explained the commentator, "the Japanese are a truth-telling nation, and do not know the intricacies of falsehood."

* * *

Philip Murray, President of the C. I. O., addressing the *New York Times* Forum, said:

"Labor asks for both reemployment and new employment of veterans on the basis of accrued seniority. Accrued seniority means that the months spent in military service shall be added to any time previously at work."

* * *

Prime Minister Churchill, addressing the House of Commons, reiterated that Great Britain does not intend to stop fighting when Germany is defeated.

"Another war," he said, "will open with greater vigor at the other end of the world when this present one is finished."

Should We Employ Two First Teams?

Sustained drives would be possible by alternating fresh teams of fighters.

By 1st Lt. Leo W. Jenkins

Lieutenant Jenkins in this article advocates a system which would alternate front line troops at frequent intervals. To follow his reasoning, the Marine Corps would have to be doubled in size, or its objectives and missions reduced in half. Nor does the author answer the important question of "Where do we get the ships?" while the editors of the GAZETTE *do not subscribe to his viewpoint, the article is presented as an interesting approach to the ever present problem of manpower.*

MANY writers have likened our armed forces, particularly the Marine Corps, to an athletic team. A few lessons from the strategy employed by some of America's outstanding football coaches might therefore be in order. They no longer keep men in the game until they are almost completely exhausted, then make a single substitution expecting this one replacement to bolster the other ten weary souls. Under the new system one team plays a quarter, or in some cases a half, then is replaced by a fresh and eager new team which in turn is replaced later in the game by the team that was used initially.

This strategy of having more than one first team could be used to advantage in the Marine Corps' future campaigns. The heroism of a small, tired unit holding out and finally defeating an enemy is highly commendable, but the deed is too often not commensurate with the price paid and should be avoided as much as possible. It is not uncommon in battle for one to hear apologies for this company's or that battalion's inability to achieve its objective because they were cut up badly or hadn't slept for several days. The argument generally follows that if they weren't tired they would have "knocked the hell" out of the Japs. It is highly conceivable that a fresh company or battalion could easily carry out this threat. In fact these holding actions necessitated by units' physical inability to maintain sustained drives with its initial vigor definitely gives comfort to the enemy, and consequently prolongs the battle or increases the number of our casualties.

In amphibious operations the defender is at a disadvantage in that he must generally defend an area with whatever is available, while the attacker is at liberty to determine the size of his attacking force. The Marine Corps' success has been due in a considerable degree to its philosophy of driving at the enemy relentlessly until he is defeated. This drive can be greatly streamlined. Too frequently we permit the Japanese to reorganize and recover from initial shock. Front line troops can and should be a never tiring machine. Unfortunately, this is impossible unless men are rotated for front line duty. Medical science has fought fatigue, but the battle is far from won. Front line troops show an appreciable drop in efficiency with each day of fighting, due, chiefly, to sheer exhaustion. Yet behind the very lines of each battlefield are more men than the front line units had at full sterngth.

Fresh Troops Often Request Action

Most of this rear group have had sufficient food, water and sleep, and from a military standpoint they are fresh. Frequently these men request front line duty to relieve "buddies" who are exhausted. Rotation of this type is not desirable, however, since the work in the rear must be done, and it would be purposeless to bring front line men back only to assign them to other duties.

True, regiments within a division are kept in reserve, and battalions and companies in like manner in smaller units, but this does not always give the desired results. It is generally like sending one or two men into a football game to bring relief to a tired and weary team. The results are not always too successful because the other nine men continue to take the usual pounding with increasing exhaustion. A Marine is a very proud fighter and quite a vociferous individual. Thus, he hesitates to call for reserves which may often work to his disadvantage. On the other hand, when one outfit does relieve another, the cry may be heard from some officers and men that, "We saved their necks," "They had to get us to keep from getting a 'shellacking,' " and other remarks along similar lines. Comment of this type is not deserved by any organization that has fought to exhaustion, and could be avoided if a concept of two first teams for each engagement were adopted.

More Men, Ships and Material

The war in the Pacific is becoming highly accelerated. It is obvious that more men, ships, and material will be available in increasing quantities. We can choose the strength of our landing

force for each operation. We are no longer working on a "shoestring" basis.

It is suggested that a rotation system be used in the commitment of all infantry units by having two outfits assigned to the same objective in each operation. This would not necessitate doubling all the supporting elements, nor would the rear echelons of all the units committed be affected. If one division is to stay at the place being assaulted, it will function in a normal manner, furnishing the beach party and other allied requirements. Corps troops will perform their normal functions. If none of the attacking units are to remain at the area involved in the operation, then corps will decide the employment of supporting elements. Under this system of rotating infantry units in each engagement, the Japs would find themselves in an exceedingly awkward position. It would be almost impossible for them to recover from a sustained drive that would seldom, if ever, diminish in its fury from that of the initial assault.

Specifically, the plan would work something like this: Instead of committing the normal requirement of infantry units on a given operation, use twice this number. Employ two regiments in all places where one would have been used originally. In other words have two first teams with each operation. Let each one be used for a scheduled period of time, to be decided upon tentatively before the operation. The time and place for making the shifts would be determined by the situation, the important consideration being the maintenance of a vigorous sustained drive against the enemy with no letup. Continuous liaison work between the two units would be absolutely necessary. Let the initially employed units push ahead for possibly two days, then withdraw them, and have the other outfits start a fresh drive to last for a period determined by the exigencies of the existing situation. The first group would then be recommitted. Continue this rotation until the enemy is either annihilated, or made definitely unable to counter-attack in force.

This Would Step Up the Pace

It is not meant that the traditional method of using reserves for each operation be abandoned. Plan each engagement as in the past, but use this new technique to step up the pace. There is no doubt that the recuperation and rest period after each operation would be greatly decreased, and the battle morale of troops involved greatly increased. It must be remembered also that banzai tactics are most serious when used against battle-weary Marines. A fresh, fully supplied outfit would take banzai attacks in stride.

Also, by committing pairs of smaller units in the divisions, as well as divisions as a whole, in a rotation system to the same objective, there would be a greater appreciation of their specific task in the operation. The present plan of calling on outfits from other sections of the battle to replace units in need of assistance has its limitations. It is not easy to explain the complete situation during the campaign. Furthermore, since the units would be rotated according to a definite plan, no one would be rescuing anyone else and there would be no excuse for any officer letting his bravery cloud his good military judgment in requesting assistance.

A Tired Marine Becomes Careless

Unquestionably, this system of two first teams would also cut down on casualties. It is frequently the tired Marine who is careless or foolhardy. The enemy would have a difficult time estimating our probable casualties because the number of peaks and drops in our fire power in various sectors would be greatly decreased, in favor of a more steady rate of firing. It certainly would bring no comfort to the Japs to know that they are going to be hit by a never tiring Marine.

From a tactical standpoint it would be unnecessary to send the unemployed unit far behind the front lines. It would be their task to form the secondary line of defense. Although this type of defense is not always necessary, it does present a wonderful margin of safety. If needed, the proper units would be well placed; if unneeded, they could take short rest periods. Front line troops could be better fed and supplied. No excessive transportation problem would be created because in most cases the rotation could be accomplished afoot. In fact many of the front line transportation difficulties would be decreased because troops could be supplied, in part, while they were at the secondary defense positions.

There would be slight excuse for discouragement at the front because each man would know that, no matter how tough the going, he would get relief after a couple of days. The great enemy of the infantryman, fatigue, would be greatly diminished. The infantryman's task would be cut roughly in half and, at the same time, his striking power doubled.

One of the big problems in every landing is the elimination of confusion on the beach. Various units assigned to specific tasks are frequently called away for other duties. At times it is necessary for them to supply men for secondary defense work in addition to the normal beach defense requirements. This situation consequently disturbs the unloading schedule, as well as disrupting all of their other duties. Beach defenses are not difficult to establish when the enemy is separated from the beach by front line troops and by a strong secondary defense. It is the constant threat of a break through that ties up beach activity. Banning heavy mortar and artillery fire, all ship to shore movement and dump activity could be put on a twenty-four hour basis almost immediately. Instances

where small bypassed pockets of Japs have influenced the work on the beach are inexcusable. Units moving up in strength for secondary defense positions prior to front line duty would find little trouble in eliminating such obstacles.

Roads for the transportation of gear on, and from, the beach are limited, and frequently in poor condition. Movement of troops and supplies up to the front increases congestion considerably. Traffic is often delayed while men are removed to beach hospitals. This is excusable in the very early stages of the engagement but not after several days of fighting. Tractors and trucks are halted intermittently while urgently needed reserves and supplies for the front go through. Work stops while men on the beach assume, or prepare, secondary defense positions. All of this means delay, and thus respite for the Japs. While this situation can be blamed on unpredictable conditions present in every landing, it should not continue throughout the engagement. Unfortunately, I have seen these conditions prevailing when an operation was in its second and third week. Much of this confusion could be avoided by moving most of the men and material at the beach to positions behind, and under the protection of the secondary defense units. Thus all of the so-called urgent movements would be between the front lines and the secondary defense.

Medical Care Quickly Available

Medical companies when they set up on the beach frequently find themselves receiving prearranged mortar fire. It is possible that their position would be no more unfavorable were it located in a well chosen defilade near the secondary defense. It is also conceivable that more men could get necessary rear line medical care much sooner. The present system of evacuation aboard ship would not be altered in any appreciable degree. Corpsmen and doctors who normally travel with the various infantry units would function in a normal capacity. Their operation at night, however, frequently becomes impracticable due to front line conditions. The doctor is not in a position to be of any assistance when infiltration or banzai charges are probable or imminent. It is seldom that front line troops are not under this threat. In fact, doctors, air liaison personnel, and similar personnel whose duties are accomplished chiefly during the day, become excess baggage at night. Their usefulness is nil, and their efficiency is impaired with each night spent on the front lines. Some of this personnel could well remain with rear units at night.

The problem of bringing sufficient food to front line troops is always an acute one. It is obvious that it is impossible for troops while engaged in actual combat to comply with many of the sanitary regulations. A unit hit with gastro-enteritis is, from a military standpoint, like a unit knocked out. Although it may manage to hold in its sector of the fight, its driving power most certainly will be negligible. The proposed plan of rotating front line units, while not entirely eliminating this danger, will definitely diminish its seriousness. Units can be fed properly at least half of the time that they are in combat. During the first day, at least, of their return from the secondary positions, they should be prepared to feed themselves and supply their own needs for water. It is not conceivable that the secondary defense area will be a proper place to set up field kitchens, but such kitchens, set up in rear areas, should be able to get food to troops in secondary positions without too much difficulty. Under the present technique warm chow for front line troops is almost a rarity.

Eliminating Other Problems

The present system of bringing up reserves, or shifting units from other sectors, in order to prevent breakthroughs or demoralizing retreats is often slow and unnecessarily dangerous. The required reorganization and transportation of units to various areas is time consuming. The difficulties do not end here, for the newly committed units must be given an appreciation of the situation. The proposed location of troops not on the front lines, plus continuous liaison work, would eliminate these problems. It is also obvious that if a Jap rout is probable the employment of both units would make it a certainty. If the operation progresses according to plan, the non-committed troops could move into positions previously occupied by front line troops.

In spite of any argument to the contrary, the chief purpose of all activity, regardless of how remote it may appear, is victory final and complete. The proposed recommendation leads to that end. The war in the Pacific is not being won by one battle or operation but a series of these that are bearing us closer to the heart of the enemy. Every Marine knows that his work does not end when he is exposed to combat once, or even a few times. Like the big leaguer that he is, he fully realizes that next week's game will be even tougher, and he wants to be in on it. Unfortunately, nature, while having many beautiful things attributed to it, also considers war as part of its business. Exposure to combat conditions for too long a period of time frequently leads to emotional breakdowns, or war fatigue. The time element herein considered is often indeterminable. For some individuals, when the going gets tough, a few weeks may be sufficient time to do the damage. Eventually, everyone is a potential victim of this disorder. Unfortunately, many of these casualties are excellent and highly trained fighters whose usefulness might end with one engagement. Such persons are not easy to replace. We can ill afford to lose good infantrymen. It is reasonable to assume that exposure to front line duty in small

doses would undoubtedly prolong the effectiveness of these Marines. Doctors agree that these disorders are usually gradual in their development, and can be arrested or entirely prevented by frequent removal of troops from the cause. Men who begin to show slight signs of disorder after a week of front line duty, might be beyond rescue after a three or four week period. Such troops, however, could probably be exposed without dire results for longer periods, if such exposures were varied with frequent removal from the front for rest.

Finally, it will not be a heartening thought for the Japs to realize that when the Marines hit a beach there will be no rest, or even slight periods of lull, until the last one of the sons of heaven is out of operation.

To go back to the original premise of this article, our war with Japan is going to be a succession of conflicts. The good coach must always keep an eye on "next Saturday" throughout the season. He also knows that stars and fancy plays alone, while causing some games to be won, will generally not carry his team through a season undefeated. He also knows that even great teams and great players are not immune to physical and mental fatigue. Because of this, some of our great colleges have abandoned the traditional first, second and third team idea and have organized two and even three first teams. From the results they have had, the idea is at least worth considering.

Marine Corps Rotation System

First—there is no fixed limit on the time that an officer or enlisted man may serve outside the continental limits of the United States.

While two years is considered to be a normal tour of combat duty, there is no assurance that any man will start back Stateside at the expiration of twenty-four months overseas. The two-year limit is a goal toward which the Marine Corps is striving, but that doesn't necessarily mean the operational picture will permit its attainment any time in the near future.

Here's the way that the return of personnel in the Marine Corps is effected at the present time and will continue to be effected in the immediate future:

a. Those who are sick or wounded and who, in the opinion of the senior medical officer present, will not be available for full combat duty within a reasonable time.

b. Those who have been longest overseas.

But don't get the wrong impression from reading item *b*. A policy such as this cannot be adhered to rigidly under war conditions. There are some men who have returned Stateside who have less time in combat than other men who still are overseas.

Fighting units must be maintained, in terms of strength and specialized skills, to meet operational requirements. Consequently, the availability of trained replacements is one factor which determines how long a man remains overseas. This is true particularly in the case of highly trained specialist personnel.

Another factor which may influence return of personnel under item *b* is the availability of shipping space. Shipping available in one area may permit the return to Stateside duty of a man with twenty-seven months' combat service, while lack of shipping in another area may delay the return of a man with thirty months' overseas service.

A real effort is being made to provide replacements for men with lengthy overseas service. Necessary steps have been initiated in Headquarters, Marine Corps, to transfer all personnel currently on duty in the United States, who have never served overseas and who are physically qualified for combat duty, to replacement organizations for further transfer to overseas units. In this manner, it is anticipated that, early in 1945, all such personnel will have been sent to overseas duty and replaced in the United States with personnel returned from overseas.

When a man does return Stateside under any one of the above methods, he will remain Stateside for sometime. Current policy endeavors to insure that all men who have returned to the United States from combat areas, after having served more than one year in such areas, shall be retained within the continental United States for a period of six months prior to again being returned to combat duties. Such period is determined by ungovernable factors and hence may be more or less than six months.

In the event a man is on overseas duty and an emergency requires his return to the United States, Pacific theatre commanders have authority to grant furloughs for such purpose.

In recognition of the sacrifice and contribution made by a family which has lost two or more sons who were members of the armed forces and has only one surviving, and he is serving in the Marine Corps, consideration will be given to his return to, or retention in, the continental limits of the United States, except when he is engaged in non-hazardous duties overseas.

Designation of personnel to return rests with Division Commander. However, the quota is set by Headquarters, U. S. Marine Corps.

Aviation

Reports and Comments on the Military Uses of Aircraft *By Capt. Jack DeChant*

A GIANT twin-motored C-46 Curtiss Commando was the first Marine plane to land in the Philippines. Acting as a "mother" plane, it guided in the "Bat Eye" Marine night fighter squadron which flew its Hellcats from a rear base to the newly-won field at Leyte.

Less than a year ago, any such transport work by the Air Arm would have been done by its old standby—the Douglas DC-3 or C-47, the twin-engined workhorse of SCAT. For two years the Douglas Skytrain did the bulk of all the Marine transport work in the Pacific. It is only in recent months that it garnered a new wingmate to share the load—the Curtiss Commando.

This new plane made its first Marine appearance in strength in the Central Pacific in the Fourth Air Wing's counterpart of SCAT—TAG, the Transport Air Group. But long prior to that the C-46 was shuttling in and out of the battle areas. Its first big test was its service under the British cockard when it ran the gauntlet of the Luftwaffe to supply the battered island of Malta.

Largest and Fastest in Service

The present day Commando is rated as the largest and fastest twin-engined transport plane now in war service. It first emerged back in 1936 as the CW-20 which was designed to carry nine tons at speeds better than 200 miles per hour and still be able to land at relatively small fields in spite of its heavy load. The CW-20, when war came, was redesignated by the Army as the C-46, to serve as a cargo and troop transport.

The huge porpoise-like fuselage of the C-46 marks it readily from the C-47. The Commando has a 2,300 cubic foot cargo compartment, forty-eight feet long with a maximum width of nine feet ten inches and a height of six feet eight inches.

The C-46 Curtiss Commando is able to carry huge loads of cargo over long distances.

Constructed to carry thirty-six fully equipped troops, it can also handle the usual combat variety of cargo—jeeps, tractors, trucks, field pieces, mail, gas, and spare parts. One Fourth Wing plane in a hop from Guam to Peleliu carried two entire Navy Grasshopper hospital planes by the simple expedient of detaching the wings of the Cubs from their fuselages and stowing the complete load inside.

Power and Capacity

The Commando has a wingspan of 108 feet, one inch, and is powered by two 2,000-horsepower Pratt and Whitney engines turning Curtiss Electric three-bladed props. As a general cargo carrier its floor design allows a load concentration of any one transverse beam of about 435 pounds. The standard floor will accommodate about seventy pounds per square foot when uniformly loaded from wall to wall, and 100 pounds per square foot can be safely stacked over the center of the floor. As a hospital plane, the Commando is built to carry thirty-three litters set up parallel to the floor. More bulk cargo space is available in two compartments fore and aft.

The C-46 has often operated over 50,000 pounds gross weight. Loaded to a gross of 45,000 pounds the Commando has a top speed of over 250 miles per hour at 13,000 feet. With one engine out of operation, its ceiling is 12,000 feet and the normal take-off run to clear a fifty-foot obstacle is less than 2,700 feet. The above are figures released by the manufacturer. There is always a variance on both sides of released figures in actual combat performance.

Heavy Duty over the Hump

The Commando has racked up its most notable record as an airborne pipeline over the Himalayas. Pushing cargo over the "Hump" for the Air Transport Command, the C-46 has carried a considerable portion of that burden. It carried a goodly share of the gas and oil for the use of the B-29s operating against Japan from Bases in China. According to ATC, one crew chief recently racked up a record for the Assam wing of the India-China division by keeping his C-46 in the air twenty-seven days of the month, the remaining four days being devoted to compulsory 100-check-ups. In spite of monsoon weather and the inherent area troubles, the plane averaged two round-trips over the "Hump" a day.

The Commandos' service with the Air Army has been concentrated in the mid-Pacific with TAG which serves the well dotted Gilbert and Marshall area. The subsidiary and new forward airlines, such as ATG, have pushed the C-46s clear across the Pacific from Pearl Harbor to the Philippines.

Schedules and bases have followed closely on every major amphibious push. A westbound passenger today, en route from historic Tarawa to Guam, in two days flying time passes over territory which required eleven months to win.

Frequent overwater hops of 1,000 miles and more, predawn takeoffs and nighttime landings, heavy loads ranging from penicillin to spare airplane engines, have become routine for Commando pilots.

The battle of Saipan, where they landed on a shellpocked field with thousands of urgently needed penicillin units, was their first jump from the Marshalls to the active Marianas combat area. Beginning operations from Saipan one week after D-day, they carried out the first of hundreds of badly wounded men to rear base hospitals.

Planes Evacuate Wounded

Four TAG Commandos were the first hospital planes to operate from nearby Tinian, where the captured Jap airstrip had been hurriedly cleared for their arrival by a battalion of Seabees. More than 250 wounded men were flown to safer zones on Saipan by these four planes in the first day's operations. The final trips were fraught with risk. Night had fallen, and neither field boasted landing lights, but the Commandos came through safely with their loads.

Reminiscent of desperation on Guadalcanal when vitally needed aviation gasoline was rushed in by Marine transport planes, was Peleliu's "battle of the breadlines" which Curtiss Commandos helped fight.

Ground Marines were bogging down not for lack of fuel, but food. Treacherous reefs and a rough surf made impossible the unloading of supply ships during the first three weeks of the campaign. Only a slim line of small amphibious craft were able to ferry food to mess sergeants literally scraping the bottom of the provisions barrel.

Food Crisis Ended by Air

Soup and synthetic lemonade were becoming staple noon fare; some units were using up the last of their flour.

Two Commandos were among the transport planes which made the first of a number of mass flights with supplies which averted a crisis.

A share of "battlescars" is being exhibited by Commandos which have seen months of hard service. Most of them wear an assortment of patches in wing and fuselage, souvenirs from the Marianas and Palaus.

Jap snipers on Peleliu's "Bloody Nose Ridge" near the airstrip made the giant transport planes and their passengers a favorite target. The first person to step from a Commando there was unceremoniously greeted with a bullet in a foot.

Though early military models of the Curtiss transport possessed a few bugs and others of a minor nature were uncovered under conditions peculiar to Pacific operations, they have been ironed out.

The big-bellied Commando is proving itself a battle-worthy member of Marine air transport services.

Accomplishments Without Casualties

In forty days' bombing and strafing of Jap positions here and on Yap Island, by the "Death Dealers" squadron of the Second Marine Aircraft Wing, not one pilot has been lost or seriously injured. This is remarkable, considering the types of missions and some of the heavy enemy anti-aircraft fire encountered. Only one aviator has been shaken up in two forced landings on the airfield here. Another escaped with minor bruises when he parachuted off this island after a bombing raid.

In forty days of constant dawn to dusk air assaults, the "Death Dealers" have gone to bat seventy times against the Japanese, exclusive of patrol and reconnaissance missions. During the period, 118 tons of 1,000 and 500-pound bombs have pelted the enemy on this island, in the group, and Yap, 275 miles northeast of here. Approximately 168,000 rounds of machinegun ammunition have been expended since September 27, 1944.

Jap pockets of resistance in "Dead Man's Gulch," "Death Valley," and "Bloody Nose Ridge," and enemy installations, buildings, barges, and airfield on Babelthuap Island and the neighboring islands were struck with eighty-eight of the total 118 tons of bombs.—By T/SGT. BILL GOODRICH, Marine Corps Combat Correspondent.

What's New

Trends of Military Interest.
By S/Sgt. Ray Moulden

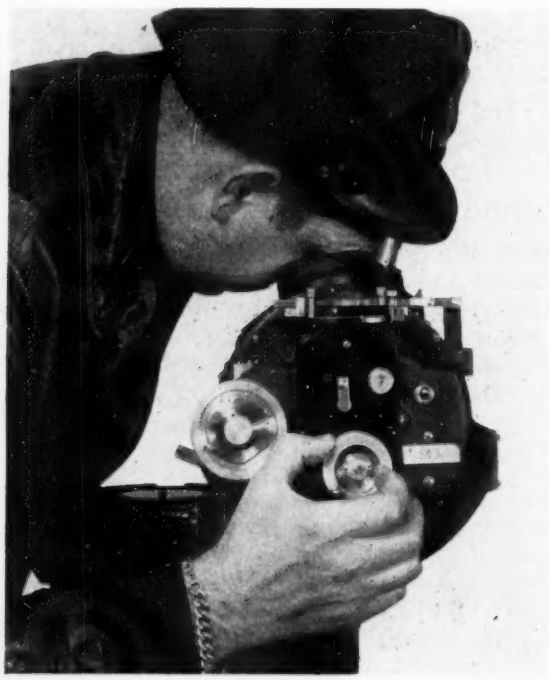
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

POWERFUL NEW TANK is being delivered by Chrysler and Fisher plants and should be on the war fronts shortly. This new ordnance may allay some of the rising press criticism of American tanks as opposed to German and Russian armored equipment, at least in the European theaters. President Roosevelt referred to the new United States tank in his annual message, stating it will mount a gun more powerful than any yet mounted on a fast-moving vehicle. So far, the press states, the Germans' new 88-mm, high velocity weapon is the most effective tank ordnance yet devised. The American 90-mm high velocity gun has been limited to mountings on tank destroyers. The 105-mm howitzer is the heaviest weapon United States tanks have carried; this is not effective against the new German tanks, except at very close range. Another new tank development is a revised method of suspension intended to smooth out the motion of the vehicle and improve acuracy of fire.

MORE NEW WEAPONS are at present being mentioned in western front dispatches, latest of which is a new artillery weapon used for the first time in Europe by the United States First Army in smashing German counterattacks in Belgium. Security prevents detailing the weapon, but it is permissible to say it is an Army adaptation of a Navy-developed weapon already found effective against ground troops in the Pacific areas.

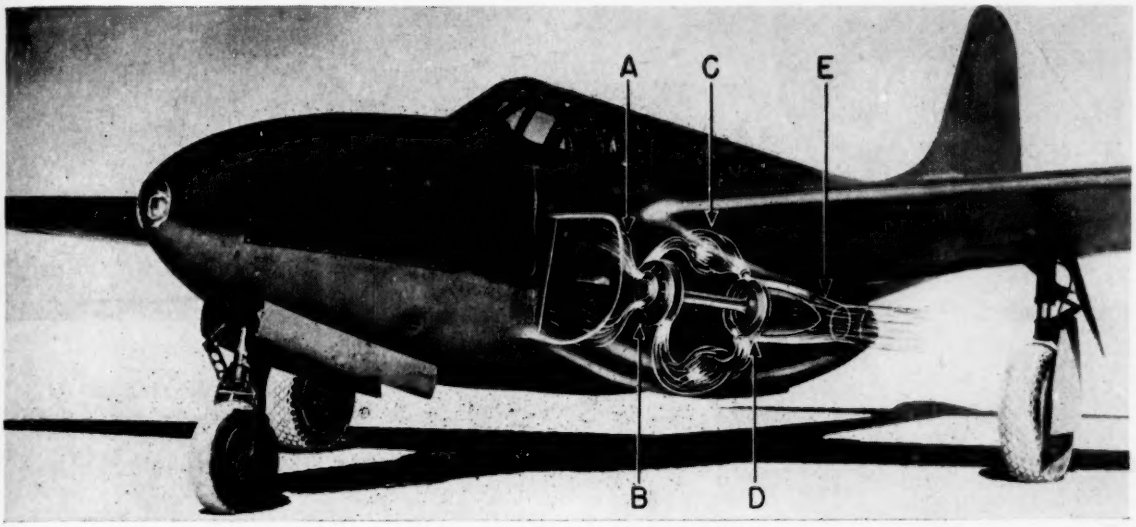
REFINEMENTS IN B-29 operations continue, newest being a split-second method for opening bomb bay doors. This is now accomplished in seven-tenths of a second by a pneumatic actuating device. Doors can be closed in three seconds. Under the original electrically-controlled system, it took fifteen or more seconds to open the doors, much longer to close them, a serious delay in the previous moments of the bombing run. Boeing Aircraft Company developed the refinement.

JAPANESE ROBOT BOMB is expected to make its appearance shortly in the Pacific. No details of the weapon are known, but the Tokyo radio has forecast the use of the robot despite the difficulties of securing accuracy sufficient to strike the small island areas involved in the vast ocean



A bombardier illustrates how the kill drift is established with the Norden bombsight.

With this picture the veil of secrecy was lifted from the famous Norden bombsight.



New type G-E jet engines fit snugly beneath the wings and against the fuselage of this P-59A, one of the propellerless fighter planes of the Army Air Forces.

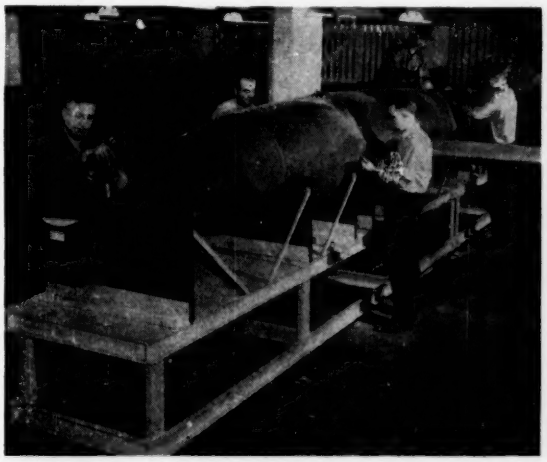
war theater. United States robots are in mass production, patterned after the Nazi V-1, but said to be an improved version. Willys-Overland Motors is one of the sources of supply. The United States bomb is twenty-seven feet long, with a seventeen-foot wing span. Manufactured in two sections, the first half houses magnetic compass and gyro equipment and a timing device set to throw the plane into a spin when it reaches its target. The explosive charge also is in the forepart of the robot. Gasoline tanks which give the bomb 150-mile cruising range are amidships and compressed air and master control equipment are aft.

FIRST UNITED STATES AIR-BORNE ARTILLERY in the Pacific made successful appearance over Leyte, with dozens of 75-mm howitzers being dropped to troops deep in Japanese territory. The maneuver was carried out by the American Eleventh Airborne Division.

NEW SEA MULE has been developed to handle the big Martin flying boats at terminals. Similar to the "mules" used with invasion troops, the tug is U-shaped and powered by three high-performance outboard motors. It slips astride the hull and maneuvers the flying boat into a new tidal float dock which juts out from a fixed pier. In advanced areas, tugs of this same type, equipped as barges and having self-contained hoists, will service the big Mars.

FLOATING BREWERIES BRING beer to British troops in the eastern sectors. Two vessels have been equipped with apparatus to turn out 250 barrels a week, and three more are to be similarly equipped. Beer will be brewed from hop and malt essences and extracts, and will be bottled aboard ship. Specific gravity of the product is to be higher than that now sold in Britain.

ALLIED TANK RECOVERY service, employing specially designed armored vehicles that can operate under heavy fire, is playing an important part in the western front operations. Salvage vehicles are armed for defense, and they are successfully bringing back of the lines Allied and enemy tanks that have been knocked out of action, for rehabilitation into effective offensive units. Armored Recovery Vehicles (ARVs) operate direct from the firing line when necessary, hauling the smashed tanks back to salvage centers. Two types of ARVs now in use are based on the Sherman and Churchill tanks, and are armed with twin-mounted Bren guns and 7.92 Besa or .300 Browning guns for antiaircraft and local defense. They are manned by British troops equipped with jib cranes, oxy-acetylene cutting and welding plant, tow ropes, shackles, gun planks, jacks, and similar engineering material. A pull of thirty to forty tons can be developed for hauling tanks from casualty positions. After hard roads are



American production is under way on this robot bomb in answer to German robots.

Here is the Army's airborne tank which, carried by glider, has many tactical uses.

The British designed a special glider for transporting this Tetrarch airborne tank.

reached, the injured tank is loaded on a recovery transporter for conveyance to workshops.

NAVY ROCKETS NOW are used by all services, and the Army has asked that production be stepped up. Navy's Bureau of Ordnance has asked another $10,000,000 to accomplish immediate increase in output.

HUGE NEW BOMBING PLANES are under flight tests by various service branches, and, if successful, would dwarf the B-29. Included in the group are B-35, B-36, and B-42. The B-36 is described in Congressional testimony recently made public as the largest airplane attempted in this country. One wind tunnel at Langley Field, Va., has been devoted to testing the B-35 and also the B-36 for more than a year.

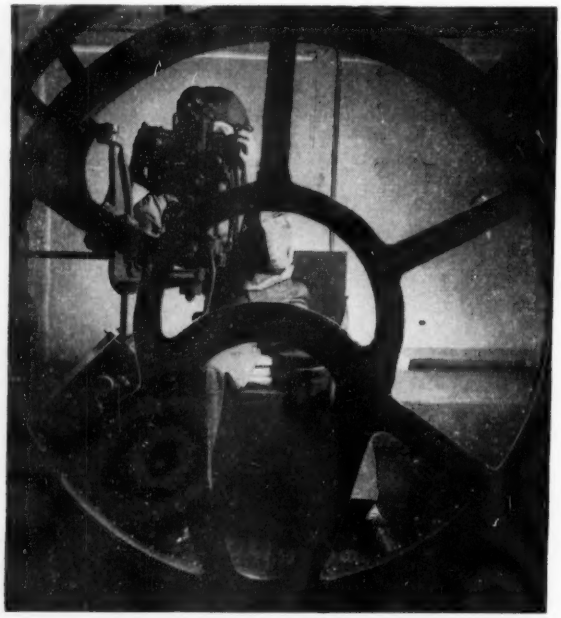
MILLIONTH OF A SECOND is all that's needed for exposures by a new X-ray machine developed by Westinghouse Electric and Manufacturing Co. This device was perfected in response to requests from military ordnance engineers for means of taking pictures of artillery shells as they pass through gun muzzles and as they pierce armor plate.

VARIANT OF V-2, smaller, wingless, capable of speed greater than sound, is being used by the Nazis on the western front as an anti-personnel weapon. Some of these robot bombs have been captured and are under study by Allied ordnance experts. Major General Levin H. Campbell, chief of Army Ordnance, terms the new bombs the V-3 or V-4. It is used at short ranges, but, like the much larger V-2, also soars into the stratosphere before dropping on Allied troop concentrations.

NAZI SNORT U-BOAT can recharge batteries under water and remain submerged twenty to thirty days. It is equipped with special airshafts which emerge from the water and supply fresh air constantly to the vessel. Divided into two sections, one portion exhausts used air, the other sucks it into the ship.

CHEAP RANGE FINDER has been invented by British scientist, Sir Thomas Merton, as a means of aiding sighting on the Nazi V-bombs. The finder costs twenty cents, and has solved the problem of sighting antiaircraft batteries on a rocket bomb against its dazzling jet flame. During the original Tokyo bombing raid, the Doolittle squadron used dime store bomb sights for fear the real article might be salvaged by the Japanese should any of the planes be grounded over the target ara.

JAPS BOAST NEW PLANE, the Gekko (moonlight), a powerful fighter, credited with



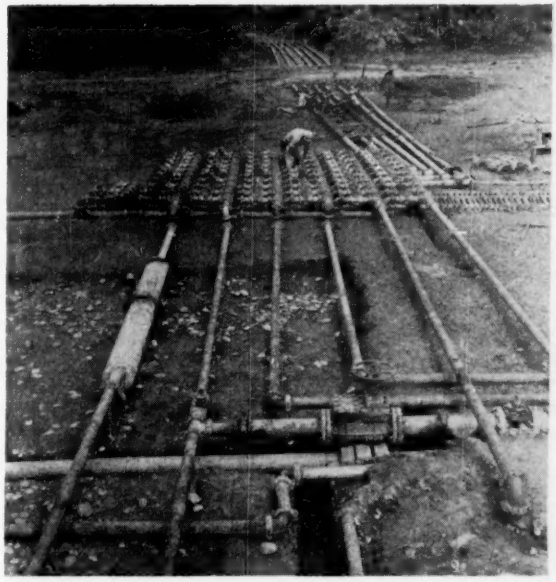
Front turrets of the B-29 are sighted by remote control from this gunner's position.

successful interception against the B-29. This twin-motored fighter is a navy plane, according to Domei, official Japanese news agency.

LOW-GRADE WOOD PULP now is used as base for manufacturing smokeless powder. Western Cartridge Company developed the process after ten years of research. The process removes much of the dependence on cotton linters for production of nitro-cellulose, basic material for rifle and cannon powder. It employs the cheap and plentiful pulp, such as that derived from fast-growing Southern pine, normally used in cheaper grades of Kraft wrapping paper.

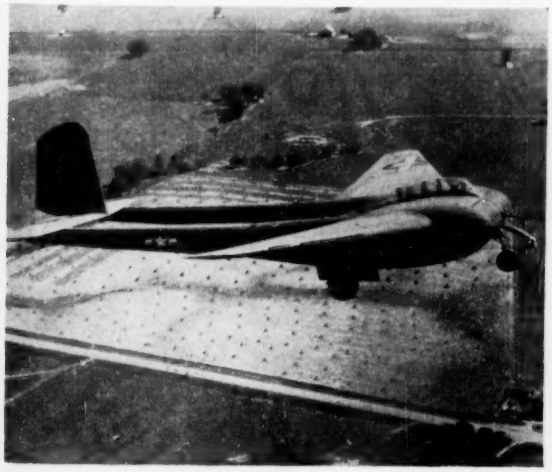
BOARD OF "GENIUSES" for permanent study and development during peacetime of new war equipment is being fostered by the War Department as one means of keeping this country informed on the fantastic advances in lethal weapons sure to continue after the current conflict finally ends. Death rays, super-rockets, jet propelled planes and bombs will be routine in the next war, acording to Assistant War Secretary Robert Patterson, and their perfection will enable an aggressor to launch such enormous attacks so swiftly that nations attacked would have no time to prepare a defense unless they maintained some such board of experts working closely with the military. Patterson urged on Congress the need for continued appropriations for experimentation, and asked that the investigating board be authorized as an adjunct of the National Academy of Sciences, and be comprised of Army, Navy and civilian members, including the chairman of the National Committee for Aeronautics.

PHOSPHOR BURN CURE is believed to have been developed by Swedish physicians. A solution of one per cent permanganate of potash and three per cent bicarbonate of soda was used to bathe the members of a Swedish air raid drill instructor painfully burned with phosphorus in an accident. Immediately the phosphorescence which had persisted for several hours after the accident disappeared. Previously the treatment had been used only experimentally on animals. The Swedish Medical Journal reported the injured man discharged from the hospital in five weeks under the new treatment. Increasing use of phosphor bombs in the continuing war renders the development unusually important.

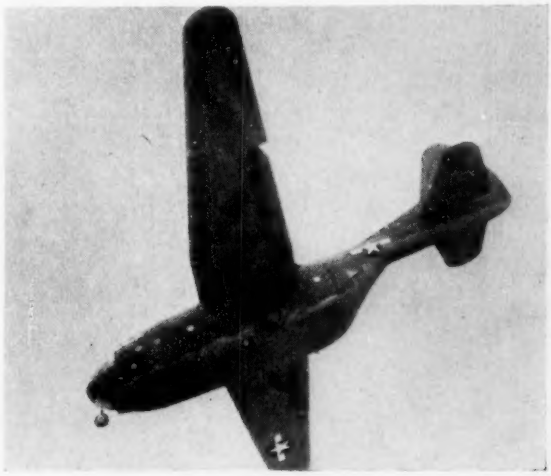


Burma manifold valve installations for the India-Burma-China pipeline are pictured.

HEAVY DUTY TRUCK TIRES, truck parts, and tentage duck, production of which is retarded in this country by increasing manpower shortages, will be manufactured in French factories as soon as rehabilitation is completed, and also eventually in Belgium and Holland. Produc-



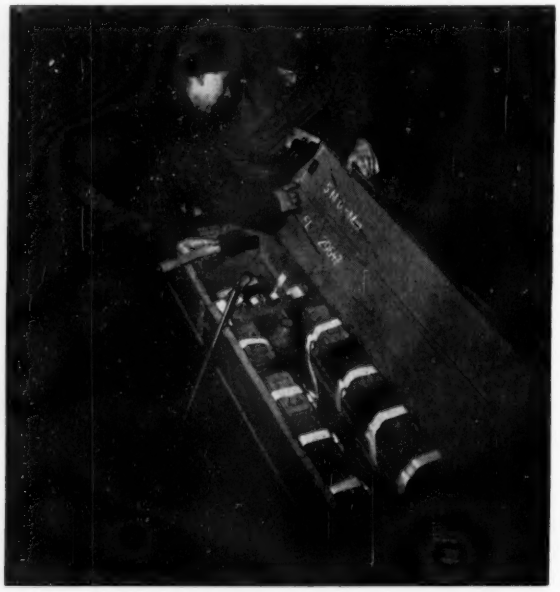
The XCG-16 shown above is the first of American gliders utilizing twin tail booms.



Big cargo loading doors at the fuselage's end distinguish the XCG-10 combat glider.

tion of this nature just behind the lines will have the combined advantages of increased output and enormously reduced shipping strain.

SPRAINED ANKLES GET fast relief from a new treatment which enables the injured person to walk immediately without pain. The British army developed the technique particularly for paratroopers and others subject to frequent sprains. It consists of an injection of local anesthetic into the injured foot, which relieves the pain instantly. The patient then may continue his duties without pain or ill effects, since the foot—with no bones broken—does not require any special rest.

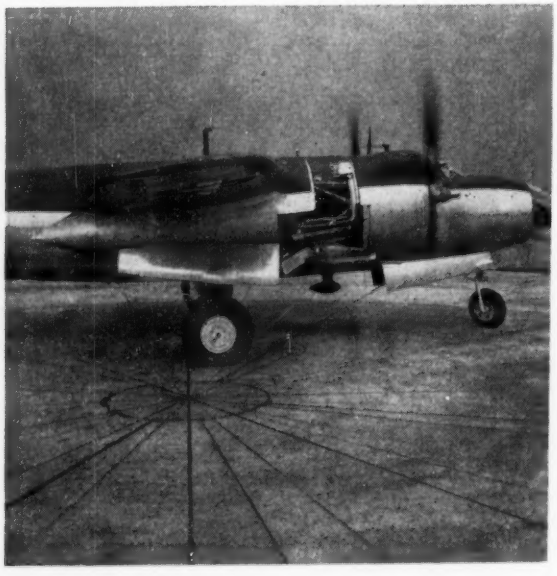


German paratroopers received ammunition in this wheeled carrier dropped by plane.

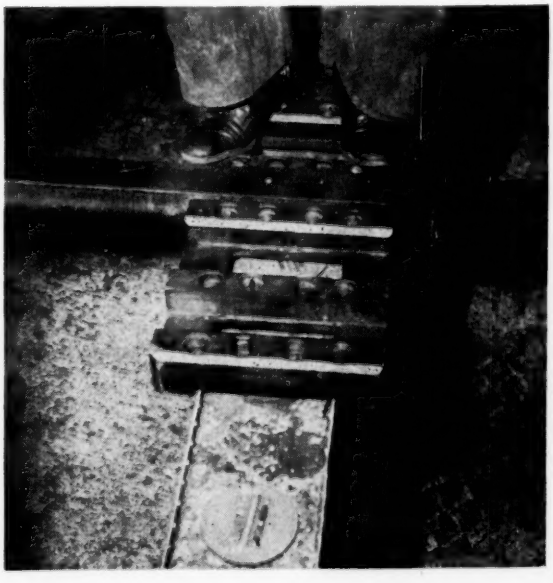
NEW AMERICAN WIRE BOMB, a fragmentation weapon made up of 265 pounds of TNT wrapped in wire, is in active use against the Nazis. According to Colonel Philip Schwartz, United States Army Air Service Command, the bomb gives the greatest number of deadly fragments per square inch.

FORTY PER CENT CARGO, thirty per cent of men from the Army have been shipped into the Pacific during the past fiscal year. Army Service Forces shipped 40,000,000 tons of cargo overseas during the period, or more than twice the 1943 fiscal figure. Of this, nearly 20,000,000 tons went into the Pacific. Some 2,600,000 troops were dispatched, nearly a million going to the Pacific theaters. During the period, ASF sent to Russia 115,000 trucks and 8,000 combat vehicles, including 2,000 tanks. Enormous quantities went also to Britain, and, in addition, an entire French army was equipped.

ULTRAVIOLET SCREENS of dark purple glass which transform searchlight beams into invisible glass are being used by the Signal Corps. These screens, used in connection with cloud height finding devices, screen out all visible light from a tiny but powerful match-shaped mercury lamp, which must be constantly aircooled. Since the screen sometimes reaches temperatures exceeding that of boiling water, it is built in small panes to localize shock caused by exterior temperature changes. The complete cloud height determining system consists of a ceilometer, light projector, and special recorder. The invisible beam is shot up to the cloud base by the pro-



A Marauder placed over a compass rose is readied for use of the new bar aligner.



Position of the aligner frame placed over a girder in the main bomb bay is depicted.

Daimler engineers have devised this well-armored British scout car which can be steered from either end and having five speeds both forward and in reverse.

jector. The ceilometer, actually a photoelectric scanning device, indicates the location of energy reflected from the cloud base. Ceiling height is then computed by triangulation.

JET PLANE RESCUE was accomplished recently for the first time when a West Coast sea rescue plane equipped with jet propulsion takeoff equipment picked up the crew of a Navy Liberator and their puppy mascot 500 miles off the southern California coast. All the Navy airmen were returned safely to San Diego. Their craft had been forced down by engine trouble, and the men had spent nine hours bouncing around in heavy swells in a liferaft before the arrival of the rescue plane.

MISCELLANEOUS —A new magnetic instrument known as "Tailwind" enables a bomber pilot to determine and regulate the power of his engines accurately. It measures the minute twist in the shifts between engines and propellers, and through this the amount of driving force delivered. . . . Wartime developments in the synthetic fiber industry promise postwar clothing that won't get dirty, won't attract moths, won't burn, will retain pleats even when washed. . . . A new "tri-alloy" bearing, replacing cadmium, has been developed by the Ford Motor Company. The new material consists of 35 to 40 per cent lead, 4.5 to 5 per cent silver, .5 per cent iron, and the balance copper. . . . Ford also is employing a combination of aluminum alloy wire crimp in engine oil breather caps. It is made of 96 per cent aluminum and 4 per cent magnesium wire, saving copper and reducing excessive oil consumption. . . . Shell production is being accelerated by General Motors to meet the expanding requirements of the armed forces. Chevrolet has just started a 105-mm program at St. Louis, turning out shells in buildings still under construction. Other divisions of the company are increasing production.

The following list shows the source from which each picture in this issue was secured. All pictures not credited are either official Marine Corps or Navy photos.

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GAZETTE BOOKLIST

Here is a carefully selected list of military books on training, strategy, history and other phases of war. Also listed are several "best sellers" and popular $1 books for your "off moments." Marine Corps Association members may purchase these books at 10% discount.

TRAINING

MAP READING FOR THE SOLDIER—$1.00
Tells how to use your hand as a map.

DO OR DIE—Col. A. J. D. Biddle—$1.00
The use of the bayonet, knife, jiu jitsu, etc.

MODERN JUDO—Charles Yarkow—$3.00
Modern methods of refined mayhem illustrated.

INFANTRY IN BATTLE—Gen. Marshall—$3.00
Examples and problems for small combat units.

GET TOUGH—Capt. W. E. Fairbairn—$1.00
Hand-to-hand combat with graphic drawings.

MAP & AERIAL PHOTO READING—$1.00
Complete with protractors, scale photos.

KEEP 'EM ROLLING DRIVERS' HANDBOOK—$0.50
How to do all sorts of hauling, dragging.

ELEMENTS OF RADIO—$4.00
Basic home-study course; no advance knowledge needed.

GUIDE TO U.S.M.C. ADMINISTRATION—$5.00
New improved edition of official "guide."

THE RAFT BOOK—Gatty—$2.00
Waterproofed guide to sea-island lore.

IDENTIFICATION; INSIGNIA OF ALL ARMIES—$2.00
A guide to the uniforms of friend or foe.

MILITARY THOUGHT AND TACTICS

PRINCIPLES OF WAR—Clausewitz—$1.00
The German battle bible for over 130 years.

SURPRISE IN WAR—Gen. Erfurth—$1.00
Surprise in attack, its value and follow-through.

DEFENSE—Gen. VonLeeb—$1.00
His plan was rejected by Hitler, used by Russia.

NAPOLEON AND MODERN WAR—$1.00
His sound rules still apply in World War No. 2.

ARMORED WARFARE—Fuller—$1.00
Hitler adopted his rules to take France.

THE GERMAN ARMY—Rosinski—$3.00
The inside dope on its inner strength.

ROOTS OF STRATEGY—Gen. Phillips—$3.00
Military classics; Sun Tzu to Frederick the Great.

THE FRAMEWORK OF BATTLE—Col. Burr—$3.00
Layman's complete guide to warfare.

MASTERS OF MOBILE WARFARE—Col. Colby—$2.00
Mobile art by its most brilliant exponents.

MAKERS OF MODERN STRATEGY—$3.75
20 analysts view military thought.

THE GROWTH OF THE RED ARMY—D. F. White—$3.75
Development from beginning to 1940.

INFANTRY ATTACKS—Rommel—$3.00
Rommel's plan for small unit operation.

THE WAR IN THE PACIFIC

HONG KONG AFTERMATH—$2.75
Murder, torture and rape in a prison camp.

HOW TO LIVE IN THE TROPICS—Virginia Hunt—$2.00
Handbook on living in the tropics.

PACIFIC BATTLE LINE—Foster Hailey—$3.50
A newsman reviews two years of war.

WITH JAPAN'S LEADERS—Moore—$2.75
An intimate record by a Jap counselor.

RETREAT WITH STILWELL—Jack Belden—$1.00
An epic story of a bitter retreat.

THEY CALL IT PACIFIC—Clark Lee—$3.00
Eyewitnesses of war from Bataan to Solomons.

TEN ESCAPE FROM TOJO—$1.00
Two heroes of Bataan tell of Jap cruelty.

JAPAN'S ISLANDS OF MYSTERY—Willard Price—$3.00
Inside dope on Nippon's mystery islands.

THIRTY SECONDS OVER TOKYO—Ted Lawson—$2.00
The story of the Doolittle bombing of Tokyo.

ISLANDS OF THE PACIFIC—Hawthorne Daniel—$2.50
Information on those small but strategic islands.

THE PACIFIC WORLD—(paper—$0.50) (cloth—$3.00)
Expert scientists tell Marines about the Pacific Islands.

GOD IS MY CO-PILOT—Robert L. Scott—$2.50
Stories of heroic flights against the Japs.

PACIFIC OCEAN HANDBOOK—Eliot G. Mears—$1.00
The Pacific; tides, currents, weather, etc.

PICTURE STORY OF TARAWA—U. S. Camera—$1.00
Graphic story of a bloody battle.

WHAT THE WAR'S ABOUT

ONE WORLD—Wendell Willkie—$1.00
A plea to understand our shrunken world.

FOR PERMANENT VICTORY—Johnson & Haven—$2.50
Suggests peacetime war plants for defense.

UNDERCOVER—J. R. CARLSON—$3.50
Inside story of American Quislings.

U. S. FOREIGN POLICY—Walter Lippman—$1.50
A warning of need for foreign policy.

GUIDE TO THE PEACE—Sumner Welles—$3.75
Vital facts about every land in the world.

WAR HISTORY

CONFLICT: THE CIVIL WAR—Milton—$3.50
Ranks high in historical reading.

REVEILLE IN WASHINGTON—Leech—$3.50
Our capital in its greatest ordeal.

R. E. LEE—Freeman, 4 vols.—$15.00
Will long stand as a classic biography.

LEE'S LIEUTENANTS—Freeman, 3 vols.—$5.00 each
The deathless story of his great generals.

STONEWALL JACKSON—Col. Henderson—$1.98
The life of one of the greatest strategists.

DECISIVE BATTLES—Creasey and Murray—$3.00
24 decisive battles of the world.

ALLIES

THE MAKING OF MODERN BRITAIN—Brebner & Nevins—$2.50
From prehistoric to democratic Britain.

HISTORY OF RUSSIA—Vernadysky—$0.69
Its people from obscure origin to 1943.

SHORT HISTORY OF THE CHINESE—Nourse—$0.69
Accurate, from mythical start to present.

PEOPLE ON OUR SIDE—Edgar Snow—$3.50
A brilliant report on Russia, China, India.

BASIC HISTORY OF U. S.—The Beards—$0.69
A vivid new history by noted historians.

WEAPONS

AUTOMATIC ARMS—Johnson and Haven—$5.00
History and development of automatic arms.

GUN CARE AND REPAIR—Charles Chapel—$3.75
Everything about the care of firearms.

MACHINE GUNNER'S HANDBOOK—$0.50
Every gunner and instructor should have it.

BASIC MANUAL OF SMALL ARMS—$2.00
How to load, operate, repair all small arms.

RIFLES & MACHINE GUNS—M. M. Johnson, Jr.—$5.00
A guide to arms from rifle to 20 mm cannon.

ROCKETS—Willie Ley—$3.50
The gap between physics and Jules Verne.

TECHNIQUE OF MODERN ARMS—$2.50
Details on arms and tactical outlines.

Continued on Next Page

LANGUAGE

HOW TO SAY IT IN SPANISH—$0.75
A guide to order food, ask questions, etc.

ELEMENTARY JAPANESE—Col. Sullivan—$1.00
It may help you to find your way around Tokyo.

EASY MALAY WORDS AND PHRASES—$1.00
Language bits to aid you in the islands.

ENGLISH FOR THE ARMED FORCES—$1.50
The principles of writing, speaking, reading.

AVIATION TRAINING

BASIC PHYSICS FOR PILOTS AND FLIGHT CREWS—$1.65
Gives fundamentals needed in learning to fly.

BASIC MATH FOR PILOTS AND FLIGHT CREWS—$2.00
Identical problems the flight student must solve.

AIR NAVIGATION—Zim—$3.00
An accepted guide on navigation principles.

NAVIGATION—Kingsland and Seager—$1.00
Manual for students of navigation.

ELEMENTS OF AERONAUTICS—Pope and Ellis—$3.75
Basic text for instructors and students.

EDUCATION AIDS

(These books give outlines of several college courses and are invaluable in preparing for study.)

An Outline of Business Law—$1.25
Outline of First Year of College Chemistry—$1.00
Outline of First Year of College Physics—$0.75
Outline of French Grammar—$1.00
Outline of General American Government—$0.75
Outline of General Forestry—$1.00
Outline of Survey of Journalism—$1.00

BEST SELLERS

(Because of paper shortages, publishers are not always able to fill orders. Please give alternate choices on popular books.)

I NEVER LEFT HOME—Bob Hope—$1.00
His own story of his GI trip abroad.

THE BEDSIDE ESQUIRE—$1.98
The best stories and articles from Esquire.

WATCHING THE WORLD—Raymond Clapper—$3.00
Current history by a famous newsman.

A TREE GROWS IN BROOKLYN—Betty Smith—$1.49
Life in Brooklyn without kid gloves.

TEN YEARS IN JAPAN—Joseph Grew—$3.75
The ten years preceding Pearl Harbor.

YANKEE FROM OLYMPUS—Catherine Bowen—$3.00
The story of Oliver Wendell Holmes.

TIME FOR DECISION—Sumner Welles—$3.00
Few men have had access to this information.

FOREVER AMBER—Kathleen Winsor—$3.00
A lusty story of love and court intrigue.

THE GREEN YEARS—A. J. Cronin—$2.50
Ranks "The Citadel" and "Keys of the Kingdom."

LEAVE HER TO HEAVEN—Ben Ames Williams—$2.50
Of a woman who cheated at every turn.

ESQUIRE'S 1944 JAZZ BOOK—$2.00
Classic essays on jazz, names, record guide.

LOST IN THE HORSE LATITUDES—H. Allen Smith—$2.00
The "Low Man on Totem Pole" rides again.

BATTLE REPORT—Pearl Harbor to Coral Sea—$3.50
A blazing account of our naval comeback.

PORTABLE HEMINGWAY—$2.00
Hemingway's best writings including two novels.

AS YOU WERE—Alexander Woollcott—$2.50
A famed story-teller's favorite collection.

DAMON RUNYON OMNIBUS—$1.49
His magical Broadway characters come to life.

MEN AT WAR—Ernest Hemingway—$3.00
Battles from Jericho to Midway.

STILL TIME TO DIE—Jack Belden—$3.00
A vivid picture of the agony of battle.

GREEN DOLPHIN STREET—Elizabeth Goudge—$3.00
He gets the wrong girl, finds he is glad.

VALLEY OF DECISION—Marcia Davenport—$1.49
A novel of love, loyalty and self-sacrifice.

THORNE SMITH THREE-DECKER—Thorne Smith—$1.49
Three hilarious hellions under one cover.

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52 masterpieces of horror writing.

MATHEMATICS FOR THE MILLIONS—Lancelot Hogben—$3.75
This book makes mathematics seem easy.

STORIES FOR MEN—$1.49
35 robust tales by America's most virile authors.

PRIZE STORIES OF 1944 (O. Henry Award)—$2.50
Writings by the best rising American authors.

U. S. WAR AIMS—Walter Lippman—$1.50
Our responsibilities in maintaining a peace.

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Including "Devil" and Daniel Webster.

PORTABLE STEINBECK—$2.00
Two complete stories, episodes from 8 others.

PORTABLE SHAKESPEARE—$2.50
Seven complete plays, excerpts, songs, sonnets.

SIX NOVELS OF THE SUPERNATURAL—$2.50
Stories of suspense written in a gripping manner.

27 STORIES BY PEARL S. BUCK—$1.49
Deep insight into China's long struggle.

SPORTS EXTRA—Stanley Frank—$2.75
Classics by Runyon, Broun, and 40 others.

ENCYCLOPEDIA OF SPORT—Frank G. Menke—$3.50
Facts of all sports from football to chess.

LAST TRAIN FROM BERLIN—Smith—$2.75
What war has done to the German home front.

THE RAZOR'S EDGE—Somerset Maugham—$2.75
Sharp insight into a man's search for a belief.

TRY AND STOP ME—edited by Bennet Cerf—$3.00
Best anecdotes of stage, movies, Broadway, sports.

ONE DOLLAR BOOKS

THE CAPTAIN FROM CONNECTICUT—C. S. Forester
Another "Captain Hornblower".

DRAGON SEED—Pearl S. Buck
A story of modern China and Jap brutality.

FRENCHMAN'S CREEK—Daphne du Maurier
A woman, a slow-witted spouse, a pirate.

THE GAUNT WOMAN—Edmund Gilligan
Gloucester fishermen help thwart U-boats.

H. M. PULHAM, ESQUIRE—J. P. Marquand
Wry humor on Back Bay Boston's life.

OF HUMAN BONDAGE—W. Somerset Maugham
A man wants to live freely—yet save his soul.

YOUNG MAN WITH A HORN—Dorothy Baker
A jazz artist gets too far ahead of the world.

FABLES FOR OUR TIMES—James Thurber
Aesop in reverse shows us how funny we are.

BARBARY COAST—Herbert Asbury
The exciting story of San Francisco's underworld.

FOR WHOM THE BELL TOLLS—Hemingway
Love and courage in wartime Spain.

MYSTERY OMNIBUS—Dashiell Hammett
Two novels, Maltese Falcon, Glass Key.

WOLRD'S GREAT TALES OF THE SEA
Stories by Conrad, Masefield, McFee.

FOR MEN ONLY—edited by James M. Cain
Choice tales by Hemingway, O'Hara, etc.

WESTERN ROUNDUP—Max Brand
Two stirring stories of the Wild West.

MYSTERY PARADE—Ellery Queen
Two of this ace detective's thrillers.

THE RAFT—Robert Trumbull
The story of 3 fliers adrift in the Pacific 34 days.

BEST SHORT STORIES OF DE MAUPASSANT
Clever, scintillating tales of a master writer.

GREAT GHOST STORIES OF THE WORLD
27 famous tales by Poe, Woollcott and others.

25 GREAT DETECTIVE STORIES—Ellery Queen
The feats of our favorite crime sleuths.

LIFE WITH FATHER—Clarence Day
One of the funniest stories ever written.

THE LAST TIME I SAW PARIS—Elliot Paul
Warm reminiscence of the French capital.

NEW SHORT STORIES BY JAMES T. FARRELL
More by the creator of "Studs Lonigan".

25 MODERN STORIES OF MYSTERY AND IMAGINATION
A spine-chilling collection. Best since Dracula.

BEST AMERICAN SHORT STORIES OF 1943
From the pens of Thurber, Saroyan, etc.

Order Blank on Page 82

Books

Recent Offerings for Military Readers. Books Reviewed May be Obtained from The Gazette

Six Months of Defeat

The story of our Navy during the disastrous first six months of World War II is simply but eloquently told in *Battle Report.** It is a story of men and ships, planes and bases, and it is told with objectivity. However, suspense and excitement are provided in full measure by the gripping and sometimes harrowing details of events that had their start when Pearl Harbor was raided.

The authors explain in a foreword the directions they received from the late Secretary of the Navy Frank Knox concerning the preparation of the book:

"Tell the story of the Navy's part in this war. Particularly those early days, when the Japs were having things their own way, and when we had to examine every scrap of information with a microscope for fear it would be helpful to the enemy. Admiral King has agreed that it is now possible to release much of the information which, up to now, we have had to hold back. Tell the whole story in a nontechnical, readable form, the good and the bad."

The authors have been able to tell a complete story, omitting only certain technical points still of interest to the enemy. In addition, however, they have given life to the historical presentation by personal narratives, well chosen and dramatic, by the men who fought the battles.

More than anything else, these stories explain why the Japanese are not now in full control of their planned Greater East Asia Co-Prosperity Sphere. Tremendously outnumbered, and with little hope of relief or reinforcements, officers and men fought epic battles. Some they lost and others they won, but in fighting them they saved the Hawaiian Islands and gave the United States time to build. Part of the price for this can be found in the back of the book—a list of 12,113 action casualties suffered during the first six months of the war.

Battle Report reveals that at the time of Pearl Harbor we had 216 major combat vessels. Of these, 102 were in the Pacific, spread from the Philippines to the South American west coast. When the Japs struck at Pearl Harbor they found there eight of our nine battleships stationed in the Pacific, together with nine cruisers and about twenty destroyers. With the greater part of these put out of action, we had left at sea in the Pacific two task forces, made up of two carriers, six heavy cruisers, and fourteen destroyers. These ships, with about fifty Dutch and British surface ships, had to fight off the might of the Japanese navy, which was aided by unpleasantly efficient Jap airpower. The part played by Marines from December 7, 1941, to the Battle of the Coral Sea is told with further particulars to add lustre to the heroism of the Marines on our island outposts and ships. Throughout the book Marine exploits are recounted, and in a way that can give pride to all members of the Corps.

Pictographic maps showing the tactics of each engagement, together with scores of heretofore restricted photographs, give the book added interest.—J. C. K.

* *Battle Report*, by Commander Walter Karig, U.S.N.R., and Lieutenant Welbourn Kelley, U. S. N. R. (Farrar & Rinehart, Inc., 499 p. $3.50.)

Pictorial Record

As an artistic medium, the camera operates in a limited, though definite, field. However, the full scope of its artistic power, combined with its vivid recording of passing events, makes *The U. S. A. at War** a selection of photographs which catch both the epic and the simple realities of the war.

Photographs made at Pearl Harbor, with proud vessels of the United States Navy burning and listing in the water, lead the collection of pictures selected by Commander Edward Steichen, U.S.N.R. The last photograph is of George Strock's "Three Americans" lying dead on Buna Beach, New Guinea. In between, are photographs made at home and abroad as factory wheels turned, snow fell in Maine, an enemy beach was hit, and a soldier returned home.

A large proportion of the photographs chosen were made by Army, Navy, Marine Corps and Coast Guard photographers, who remain anonymous as individuals but whose skill, resourcefulness, and valor have received a definite recognition from their fellow craftsmen.

Most of the pictures in this collection have been published widely in the more or less temporary medium of newspapers and magazines. Here they are gathered together as a permanent record not only of the country at war but also of the valiant and interesting work accomplished by U. S. cameramen in a country at war.—M. H. C.

* *The U. S. A. at War, U. S. Camera 1944*, edited by Tom Maloney. (Duell, Sloan & Pearce. 224 p. $4.50.)

As Artists See Our Navy

From blimps along the Atlantic patrol to dive bombers in the Pacific, a group of American artists have captured the spirit of the Navy in the air to reproduce it in *Our Flying Navy*.* The text is both sprightly and factual, depicting the history of Naval Aviation as it developed from the Brewster Buffalo to the sleek wings of the Corsair.

In 1930, Admiral Lord Beatty, protesting at the then complete separation of aviation from the British Navy, wrote to the *London Times*: "The air wing of the United States Navy, owing to the single control exercised by the United States Navy, is far ahead of our Fleet Air Arm." At Pearl Harbor, the Japanese forcibly demonstrated the power of Naval Aviation. The distinctive position occupied by Naval Aviation in our forces today has resulted from the fact that Navy and Marine officers who man the planes are not just pilots. They are Navy and Marine officers who can fly, the interesting text prepared by the Training Literature Section of Office of Deputy Chief of Naval Operations (Air) points out.

Artists who painted the pictures forming the latter portion of the book are eminent in their field. Don Freeman's sketches and paintings are of the intensive pre-flight training of the Naval Aviator. Joseph Hirsch's and Georges Schreiber's contributions cover primary and intermediate training. Carrier operations are depicted by Lawrence Beall Smith, and Robert Benney has contributed vivid combat pictures. Adolf Dehn's pictures and sketches cover the field of lighter-than-air, and Howard Baer depicts WAVES, the "petticoat Navy," at their varied jobs in connection with Naval Aviation.—J. A. D.

* *Our Flying Navy.* (The Macmillan Company. 102 p. of text, 80 color plates, $3.75.)

Hitler's Military Reading

"Hitler reads insatiably, omnivorously. It is on the basis of this tremendously wide reading through the years that he has gained his knowledge of history and of military science, for he had only an elementary education.

"I found that his personal library, which is divided between his residence in the Chancellery in Berlin and his country home on the Obersalzberg at Berchtesgaden, contains, roughly, 16,300 books. . . . The military section, containing some 7,000 volumes, including the campaigns of Napoleon, the Prussian kings; the lives of all German and Prussian potentates who ever played a military role; and books on virtually all of the well-known military campaigns in recorded history. There is Theodore Roosevelt's work on the

Spanish-American War, also a book by General Von Steuben, who drilled our troops during the American Revolution. Blomberg, when he was War Minister, presented Hitler with 400 books, pamphlets and monographs on the United States' armed forces, and he has read many of these.

"The military books are divided according to countries. Those which were not available in German Hitler has had translated. Many of them, especially on Napoleon's campaigns, are extensively marginated in his own handwriting.

"There are exhaustive works on uniforms, weapons, supply mobilization, the building-up of armies in peacetime, morale and ballistics. In fact, there is probably not a single phase of military knowledge, ancient or modern, which is not dealt with in these 7,000 volumes, and Hitler has read many of them."—J. P. L.

From *This Is the Enemy*, by Frederick Oschsner. (Little, Brown and Company, 1942.)

Stone Blasting

Stone projectiles were universal until the beginning of the 16th century, and even as late as 1807 a 25-inch gun at Constantinople firing a 600-lb. projectile cut the mast from an English ship and with a second shot, killed or wounded sixty men.—From "Historical Review of Artillery," Marine Corps Schools.

Memo to Mess Officers

Good mess does more than provide physical sustenance; it is essential for morale. Mess duty is thus important and it can be made extremely interesting.

By 1st Lieutenant Blair H. Dewey

HOW many times have you heard some officer, who has just been informed that he was to be the new mess officer, ask: "What did I do to deserve this?"

In actual practice, mess duty is distasteful only if you consider it so. It can be of the utmost interest, and a competent mess officer can take a lot of pride in his work.

Admiral C. W. Nimitz recently wrote: "The best material aid in the maintenance of good morale is good food, both in its preparation and its service. Soldiers are no different from other people; their spirits rise when their gastric juices have been properly stimulated. Every commander should, therefore, give unremitting attention to the improvement of the standard of cooking and to the service of food in the field."

Unfortunately, experienced restaurateurs are not always available for assignment as mess officers. But, as training manuals indicate, it isn't necessary that the mess officer be a former cook or cafe proprietor. An adequate amount of common sense will suffice.

The attitude of the mess officer must not be overlooked. His prime consideration in all dealings about the galley must be "what will the food look and taste like when Joe Blow gets it in the chow line?" For it is the man *behind* the serving counter who *must* think of him. No one else will see that he is fed, and that is where the commissary branch comes in.

Your Personal Responsibility

Behind each meat pan of chow served on "the line" lies a maze of detailed operations, including everything from drawing the stores to serving the proper amount of food in each spoonful of chow on the line. If attention is paid to these details, the total task seems much smaller. As competent as your NCOs may be, don't relegate everything to them. A great deal must be done by *you,* especially in the way of suggestion. You and the mess sergeant in charge of the galley must be constantly on the alert to see that the various details of operation are carried out. To help in this, the following tips are passed along for what they may be worth. They are matters we have learned by experience, they have been tested, and they work.

Place an NCO in charge who knows all phases of cookery and how to handle cooks. And, remember, cooks are a temperamental lot. Each has his individual problems, which must be treated individually. The NCO should prepare the menus and submit them to you for your approval. He is your right hand man in all matters of administration.

Make a Study of Your Men

Keep a personnel card on every man in your galley. Find out exactly what he did in civilian life, and in the Marine Corps. Learn his friends, his hobbies, his likes, his dislikes. If at all possible, place a man where he wants to be. He'll work better there. When assisting mess personnel to duties, bear these things in mind. We have seen cooks of known ability who didn't produce to their fullest capacity because they couldn't work with their buddies.

Protect the health of your unit by insisting that all personnel detailed to the galley have a physical examination by the surgeon before actually performing duties. Too often this is overlooked, especially when replacements are detailed. Attempt to obtain replacements for messmen every thirty days. This is not always possible, but is definitely advisable. Very few line duty men like mess duty, and, once they serve their thirty days, they should be relieved.

Do everything possible to make the galley a pleasant place to work. Aids such as hot showers, occasional picnics and parties, laundry service of skivvy shirts, etc., will achieve this. Much can be done to counteract the feeling that prevails in the minds of most cooks that they are forgotten men. This emanates from the fact that they are specialists working in the galley, and, therefore, seldom see their company commanders. The mess officer must be a sort of big brother to the cooks.

Never allow a substitution in the daily menu without consent. Experience has shown that most cooks, if they had any choice in the matter, would prepare the easiest meal possible. The easiest meal to prepare is not always the best meal. It seldom is.

Closely supervise the preparation of food. Maintain a library of culinary books. Much can

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* The author, a mess officer in the Fourth Marine Division for sixteen months, formerly owned his own restaurants and belonged to the Amateur Chefs' Club of Des Moines, Iowa. Cooking has been his hobby for eighteen years.

Flight Research looks through the clouds...into *tomorrow*

DYNAMIC, continuing *research* has always been the lifeblood of the Sperry organization. In recent years, *Flight Research* has become an increasingly important part of our research effort.

In a single recent month, Sperry operated ten airplanes, and made 181 test flights for 21 different projects, involving 725 test and flight personnel. Sperry flight personnel are qualified to operate most types of commercial and military airplanes.

And now, to expand these activities further, Sperry has established improved facilities at MacArthur Airport, on Long Island.

Here, with accommodations for the largest airplanes, *Flight Research* will continue to transform new ideas into practical devices. The wonders developed for wartime use will need to be adapted to peacetime: Radar . . . automatic flying devices . . . instrument landing techniques . . . traffic control devices.

Sperry's *Flight Research* will accept the challenge of peacetime as it has the problems of wartime. As a result, flying will be safer, more economical, and more comfortable.

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be gained from them. True, good cooking doesn't come from a book, but it is a material aid. See that the cooks conform to a standard in their food preparation instead of relying on chance. If the latter prevails, one day you will have a good meal and the next day a poor one. Take coffee, for example. There is one way to prepare coffee as it should be. Have your men learn that method and forever after follow it.

Let the galley remain a galley, not a clubhouse. It is amazing how many friends cooks have, possibly because a cook is in a position to make handouts between meals.

Sanitation and cleanliness are matters about which you must be ever watchful. Since they handle food, mess personnel should be the cleanest in the Marine Corps, but this is far from correct. Too many times cooks will use the excuse that they work too long hours to have time to keep clean. Actually cooks have every other day off, and this affords them ample opportunity to launder their clothes. Insist that they do. Require regulation haircuts to avoid hair dropping in food. Fingernails should always be clean.

Develop specialists. Seek out men who butchered in civilian life and assign them to duties as butchers. Do likewise with bakers, and those showing special talents at cooking. If time permits, rotate your personnel in their duties so that each man in your galley will be qualified to perform any duties within the galley.

When a unit is in the field, you should personally attend to the serving of food. Establish chow lines for subordinate units in an orderly manner. Space the serving of different dishes on a menu far enough apart to avoid congestion of traffic at any one place. Have at least two containers of clear, boiling water, and one of boiling, soapy water for the cleaning of mess gear. Take the garbage back to camp with you and bury it.

Work in close cooperation with the Navy Medical Corps. We have yet to meet an unreasonable medical officer. Whatever their demands, strive to meet them. Their suggestions are nearly always sound. And, remember, sometime when you want to accomplish some new improvement around the galley, the medical officer will go a long way with you to achieve it.

Be prolific in the use of signs. That adage, "A picture is worth a thousand words," applies equally to signs. When a cook looks at a sign a hundred or so times a day, he isn't likely to forget.

Avoid being an inspection day Marine. We grant that having the galley spotlessly cleaned and polished for inspections is necessary. But a galley should be spotless at all times. The secret of this lies in keeping it clean, thus avoiding the necessity of forever and always cleaning it.

He Wanted to be a Mess Officer

ED MERRILL is a little guy with a big job—First Marine Air Wing Mess Officer "somewhere in the Southwest Pacific." He asked for the job. Not only that, he sweated and worked for it. And he wouldn't trade it for any kind of duty you could name.

That's what set Ed apart from other AVS classmates at Quantico early last year. While most of the other fellows had their hearts set upon intelligence, fighter direction, communications, radar and radio, engineering, and other glamorous specialties, Ed wanted mess. When an instructor asked the class—facetiously, of course—whether anyone wanted to be a mess officer, Ed, and Ed alone, raised his hand. Everybody laughed. They thought Ed was kidding.

But he wasn't. He had managed one of Schrafft's fancy stores in New York, and he knew in a general sort of way where food came from, how to keep the help happy and the customers coming back for more. With him the war was a pretty serious proposition, and he wanted to help the best he knew how. He figured chow was an essential source of morale and strength, and he knew the job he could do best was at the head of the chow line—dishing it out.

Greying a bit at the temples, father of a couple of kids, end man in any squad because of his small stature, Ed had to extend himself at Parris Island to keep up with the younger, tougher, more resilient boots. He made out all right. When, in the middle of his boot training, Ed suddenly became a second lieutenant and was ordered to Quantico, his buddies bought him his bars, tossed a party and put him aboard the train.

That Quantico course was no pushover, as any graduate commando will attest, but eventually Graduation Day came, and the company executed a "To The Winds—Hoor!" The glamor boys in intelligence went to the Army Air Force School of Applied Tactics at Orlando; the fighter directors repaired to Sea Island, Georgia, for schooling in their romantic and adventurous calling; communications men went to Boston to pursue their exciting studies. And Ed went to Kinston, which is a desolate airstrip fifty miles from Cherry Point, which is 100 miles from nowhere. Everybody felt kind of sorry for Ed

and the mess duty he had volunteered for so valorously.

Time passed—not very much of it in Ed's case—and A Company alumni began trickling out of the country. The earlier ones who arrived at that certain Southwest Pacific base found Ed there before them, in business long enough to have established one of the finest messes in that big ocean.

This November Ed wrote to an old buddy:

"If I could have made a wish last March, I would have wished for exactly what has come to pass. I now have the job I most desired, also the one in which I can contribute the most support for the common cause. I'm pretty well organized here now and I'm really enjoying the whole adventure thoroughly. The boys all seem to go for my chow, and I've had wonderful cooperation in securing supplies.

"My fresh eggs, fresh milk, tomatoes, lettuce, celery, cauliflower and oranges are flown to me by SCAT from a city in Australia a few thousand miles away. But so far I have been quite able to set a table comparable to any stateside restaurant. And if I do say so it's better than any general mess I've struck in the service. Bragging again, eh? Well as long as I can keep the boys happy, I'm happy and proud."

"Left the states last August and traveled over 10,000 miles by boat and plane, stopping at nine important ports in this area of the world. Just like a Cook's Tour. But it's been a grand adventure. My best regards to our mutual friends."

Most of those mutual friends—a great majority of them—are still cooling their heels in the states. But they don't feel sorry for Ed and his mess duty any more.—1st Lt. PAT MCGRADY.

To the Editor

Dear Sir:

I have served as Assistant Provost Marshal and Provost Marshal of a Marine Division for some forty-one months, and should like to add a little to the discussion on the improvement of the present state of discipline in the Marine Corps, originally discussed in Lt. Colonel Letcher's fine article in your January, 1944, issue, and later in a letter by Major James A. Donovan, Jr., published in your August issue.

I believe that discipline among troops is dependent on five basic requirements, as follows:

First, the example set by officers, in meticulous compliance with orders and regulations. This problem has assumed progressively larger proportions with the expansion of the Marine Corps, because the young officer does not, himself, have a real chance to become indoctrinated with the necessity for discipline, and the effect that follows from any act on his part which is in violation of orders. Add to this the disinclination of many officers and command responsibility to initiate disciplinary action against their junior officers, and you have one of the most important factors in the existing let-down in discipline.

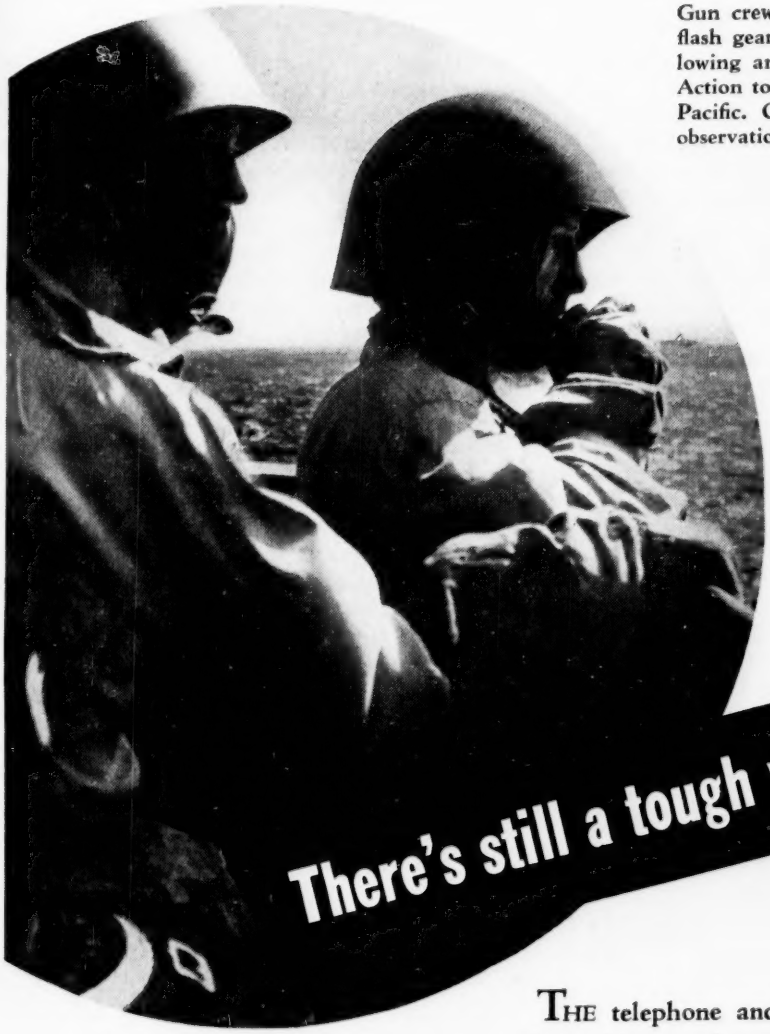
Second, a certainty of prompt punishment for violations. Some officers accept excuses time and time again and are unwilling to believe that their men have committed the offense charged. Times without number, when MPs have appeared at office hours to testify against offenders, they have been in effect called liars by commanding officers. In many cases, men have been excused on the basis of flimsy explanations which would not have stood up for a moment had the reporting MP testified.

Third, a constant emphasis on small unit competition relative to disciplinary records. Officers and men are jealous of the reputation of their units. Why can we not develop the same spirit regarding disciplinary records? If squad leaders, platoon leaders, and company commanders would constantly urge their respective units to maintain the best disciplinary record in the platoon, company, and battalion, much could be achieved.

Fourth, the demonstrating by commanding officers of confidence in, and cooperation with, the military police. I am not naive enough to believe that an MP is never mistaken, or that for some special reason an MP may not perhaps add color to a report, but in the absence of specific indications of malice on his part, commanding officers should accord a high degree of credence to the testimony of an MP. If troops are convinced that a report by the military police immediately puts them in the position of having two strikes against them, they will be careful not to be arrested.

Fifth, a sufficiency of military police. The number required for a division depends on where the division happens to be, and how far its members can spread during liberty hours. In any city large enough to absorb even half a division, however, the number of military police now allotted to a division is totally inadequate. My experience tells me that the strength of the MP company should be increased by at least 100 per cent, and this increase is necessary for combat purposes and discipline.

I agree most heartily with a Major Donovan that a training school for military police is an absolute necessity—not, however, because of any failure to come up to standard of those now doing the job, but to provide additional and replacement material.—LEWIS N. SAMUELSEN, LT. COLONEL.



Gun crew officers, in helmets and flash gear, keep careful watch following an attack on their carrier. Action took place in the Southwest Pacific. Officer at right is relaying observations by telephone.

There's still a tough war to win

—and the armed forces need vast amounts of telephone and electronic equipment.

THE telephone and radio on ships and planes have made a vast change in naval warfare.

Our Navy has more of these things than any other navy in the world. The battleship Wisconsin alone has enough telephones to serve a city of 10,000.

A great part of this naval equipment comes from the Western Electric Company, manufacturing branch of the Bell System.

That helps to explain why we here at home are short of telephones and switchboards.

BELL TELEPHONE SYSTEM

Amateur Militiamen on the Frontier

"MUSTER" Days were red-letter days on the frontier. For a few hours the backwoodsman became a militiaman, and, as the American pioneer was too much of an individualist to be stamped into the military mold, M-Day was for him a time for relaxation and horseplay.

The persistence of the militia in American history was based on the pioneer fear of a large body of permanently armed men in our midst. It was always assumed that, should an emergency arise, an American would seize his musket from over the mantel and come to the aid of his country. Compulsory military service as represented by the militia came to an end by the efforts of the citizens themselves, and despite the fact that legislatures were reluctant to disturb the time honored laws. Wit and ridicule proved the eventual downfall of the militia system.

In 1840, a disgruntled militia officer wrote as follows: "Certainly there are few more ridiculous scenes than a military muster under the present (dis)order of things. Several hundred men formed into what is called a line in every variety of posture and position . . . equipped, too, or non-equipped, with every variety of coat and shirtsleeves, and every variety of weapon, with the cornstalk, the umbrella, and riding whip predominating almost to uniformity . . . every man grumbling and thinking the time wholly thrown away . . . certainly there is very little of the military in this display."

Yet the early militia laws were strict and could have been serious for the frontiersman. In Illinois, during the 1830s, for example, all free white male residents from eighteen to forty-five years were held as members. According to the law, each was to furnish a musket and bayonet, canteen, two spare flints, cartridge box, and not less than twenty-four cartridges, with powder and ball suited to the bore of the gun.

For failure to appear at the muster, fines assessed by court martial were, for privates, fifty cents to a dollar and a half, and so on up to $200 for commanders of divisions. Fathers were held liable for their minor sons, guardians for their wards, masters for their apprentices. For Quakers, Dunkards, and other religious objectors, the day could be missed by paying three dollars.

As the frontier militia was completely democratic, even to the election of officers, peculiar

military situations would arise. Candidates for captain would make campaign speeches and the men would line up behind their choice. "The fellow who had the longest tail to his kite would win." In one instance, a blacksmith was elected captain but did not meet with the approval of all the men. The objectors to the captain broke up M-Day drill by performing the opposite of every command he gave.

Uniformity of dress was lacking in the rank and file, and some of the militiamen were strangely and wonderfully attired. They were greatly in contrast with their officers, who seldom failed to array themselves in their own conceptions of military dress. One famous midwestern militia officer, known as "Captain Andy," was described as a "very important man with a military suit on. He looked soldierlike, but his most impressive toggery was on old silk hat caved in at the sides, with a red plume on top."

Corn whiskey was an important ingredient of frontier musters that also added to the general confusion. Drills often were held in the vicinity of taverns, and hikes frequently managed to end up at a well-stocked "barrel house." One frontier preacher characterized a drill day as a "march fifteen miles on the road to hell."

A typical instance of the type of officer resulting from the militia system of the day was illustrated by Abraham Lincoln's famous story on himself. While drilling his company, twenty abreast, Lincoln came to a fence. "I could not for the life of me remember the proper word of command for getting my company endwise so that I could get them through the gate," Lincoln said, "so, as we came near, I shouted: 'Halt! This company is dismissed for two minutes, when it will fall in again on the other side of the fence. Break ranks!' "

Steuben's Manual, a relic of Valley Forge, was studied by militia officers for drill, but frequently they improvised their own commands. The military titles of general, colonel, and major which graced so many prominent politicians of pioneer days were usually of militia origin and possessed no significance. Honors were easy, and a strutting general or a dazzling colonel were jocularly hailed as "Joe" or "Sam" by the good natured backwoodsmen whom they had commanded temporarily.

Perhaps the best description of the final downfall of the militia system was given by Lincoln himself in a speech made many years after his own militia service. Lincoln had commanded a company during the farcical Black Hawk War in northern Illinois, when 400 Indians, encumbered by their wives and children, cost the Americans 200 lives, used 3,000 troops, and two millions of dollars.

Lincoln said: "A number of years ago the

militia laws of this state (Illinois) required that the militia should train at stated intervals. These trainings became a great bore to the people, and every person, nearly, was for putting them down; but the law required them to train, and they could not get it repealed. So they tried another way, and that was to burlesque them.

"And hence they elected old Tim Langwell, the greatest drunkard and blackguard, for colonel over the best men of the country. But this did not succeed altogether. So they raised a company and elected Gordon Abrams commander. He was dressed in a peculiar style. One part of his pants were of one color and material, and the other different. He wore a pasteboard cap about six feet long, resembling an inverted ox-yoke. The shanks of his spurs were about eight inches long, with rowels about the circumference of common saucers. He carried a sword, made of pine wood, nine feet long.

"They also had 'rules and regulations,' one of which was 'That no officer should wear more than twenty pounds of codfish for epaulets, nor more than thirty yards of bologna sausage for a sash; and on the banner was borne aloft these words: 'We'll fight till we run and run till we die.' They were the last company that trained at Springfield."—CARROL C. HALL.

The Size of Capital Ships

Capital ships, which might in theory be limited to gunboat tonnage, have, in practice, been limited in size only by necessity.

If nations could agree, and keep their agreements, that a gunboat would be the heaviest fighting vessel afloat, a gunboat would be the largest battleship. But, in practice, the capital ship has to fulfill certain functions in modern warfare. In the face of new and powerful forms of attack, a certain size is necessary to give a capital ship all of the essential features. Despite security restrictions on such information, there is no doubt as to the tendency of various warships to increase still further in size. The same old question again has arisen of where this will be checked.

Twenty years ago, the Washington Disarmament Conference fixed the maximum size for capital ships as 35,000 tons displacement. At a later conference, the Japanese walked out, refusing to be limited in their plans. The Japanese, small men accustomed to Spartan living, can get more fighting qualities out of every thousand tons in a ship than any other Navy in the world. Their action meant a very serious threat to other powers.

Britain's plans for the 35,000-ton *Prince of Wales* class were too far advanced to be changed, but the United States designed ships of 45,000 tons, and it is generally believed that Britain has since done the same. The latest U. S. aircraft carriers are just as big. Japan's action, which at the time was thought possibly connected with the Oriental desire to "make face," resulted in failure of the naval disarmament program.

Limiting of tonnage by agreement is not the only method advocated in the past to cut down the size of capital ships. From time to time, public attention is focused on sensational claims for the evolution of a novel man-of-war that will do everything. Often they are the efforts of enthusiastic amateurs with no appreciation of technical difficulties. In the old Czarist days, such claims were constantly made in Russia; they gave the mistresses of the Grand Dukes a better chance of wearing a great part of the Navy estimates. During the Versailles period, the German Propaganda Department was particularly active in that direction. Thanks to the brilliance of German technicians, the 10,000-ton *Admiral Graf Spee* was a capital ship in miniature, but she scuttled herself rather than face small British cruisers armed with light guns after one taste of their quality off the River Platte. Naval architecture is a science which permits unlimited ingenuity but very few short cuts.—Condensed from *The Nautical Magazine*, England.

Constitution of the United States Marine Corps Association

Article I

Name and Purposes: The name of this society shall be the United States Marine Corps Association. The purposes for which the Association is formed are to disseminate knowledge of the military art and science among its members, and to provide for their professional advancement; to foster the spirit and preserve the traditions of the United States Marine Corps; to increase the efficiency thereof; and to further the interests of the military and naval services in all ways not inconsistent with the good of the general Government.

Article II

Membership—Section 1: Regular Members. Any member of the armed services of the United States shall be eligible for membership in the Association upon application to the Secretary and Treasurer of the Association and upon payment of such annual dues as may from time to time be established by the Board of Governors. Members shall be entitled to receive a year's subscription to the Marine Corps GAZETTE, and such other services as the Board of Governors shall designate. Regular membership shall not include the right to vote.

Section 2: Governing Members. Governing members shall consist of the following officers of the United States Marine Corps:

Commandant of the Marine Corps
Director, Division of Plans and Policies
Direcor, Division of Public Relations
Director, Division of Aviation
Commandant of the Marine Corps Schools
Secretary and Treasurer of the Marine Corps Association

Governing members shall have the same rights as regular members, but in addition, have the right to vote on all questions coming before the Board of Governors of the Association as hereinafter provided.

Section 3: Disposition of Funds. No part of the Association's revenues or income shall accrue to the benefit of any member or governing member as such, and any and all excess of income over expenses shall be held in reserve for later use as needed in the furtherance of the objects of the Association.

Article III

The Board of Governors—Section 1: Membership of Board. The Board of Governors shall consist of all governing members.

Section 2: Meeting of Board. Regular meetings shall be held not less frequently than once each year at such time and place as the President upon recommendation of the Secretary and Treasurer shall from time to time determine and upon such notice as he deems sufficient. Special meetings may be called by the President in the same manner. Presence in person or by proxy of a majority shall constitute a quorum. All meetings shall be governed by Robert's Rules of Order when not in conflict with this Constitution.

Section 3: Action by Unanimous Written Consent. If a majority of the Board of Governors shall severally or collectively consent in writing to any action to be taken by the Association, such action shall be as valid as though it had been authorized at a meeting of the Board.

Section 4: Powers of the Board. (a) General Powers: The control and management of the affairs and funds of the Association shall be in the hands of the Board which shall have full power to do any act convenient, necessary or proper to effectuate the objects of the Association. The Board shall serve without compensation. It may purchase, take, receive, hold, sell, exchange, mortgage, pledge, convey, or transfer any or all real or personal property, tangible or intangible, when deemed to be necessary or desirable in the furtherance of the objects of the Association.

(b) To Incur Obligations: The Board shall have the power to incur such indebtedness as may be necessary and desirable.

(c) To Authorize Signatures and Fix Bonds: The Board shall determine who is authorized on the Association's behalf to sign bills, receipts, endorsements, drafts, acceptances, promissory notes, endorsements for deposits with any duly authorized depositories, checks, releases, contracts, documents and other legal instruments; and shall have the power to require and fix the amount of bond of any officers or employee of the Association. When the execution of any contract, conveyance, or other instrument has been authorized without specification of the executing officer, the Secretary and Treasurer may execute the same.

(d) To Amend the Constitution: The Board shall have the power to make, repeal, and amend the Constitution by majority vote.

(e) To Publish and Distribute the GAZETTE: The Board is specifically empowered and directed to publish and distribute a periodical under the title of the Marine Corps GAZETTE which shall be dedicated to the furtherance of the objects of the Association for distribution to the Association members and other persons interested in the purposes of the Association. The Board of Governors will act as an Editorial Advisory Board for the Marine Corps GAZETTE.

Article IV

Officers—Section 1: Designation of Officers. The officers of this Association shall consist of a President and a Secretary and Treasurer.

Section 2: The President. The Commandant of the Marine Corps shall be the President of the Association. He shall have general powers of supervision over the Association.

Section 3: The Secretary and Treasurer. The Secretary and Treasurer shall be recommended by the Board of Governors and approved by the President. He shall control the general management of the business of the Association and see that all orders and resolutions of the Board are carried into effect. He shall be an ex-officio member of all committees and editor-in-chief of all publications by or under the direction of the Association. He shall attend all meetings of the Board. He shall give all notices required by statute or otherwise. He shall have the custody of all funds and securities and shall keep full and accurate accounts of all receipts and disbursements. He shall deposit all moneys, securities, and other valuable effects in the name of the Association in the duly authorized depositories. He shall make all proper disbursements, taking all proper vouchers therefor and shall render to the Board of Governors at its stated meetings, or whenever requested by the President of the Association, an account of all transactions as Treasurer and of the financial condition of the Association. The books of account of the Secretary and Treasurer shall be audited at least once a year by a Certified Public Accountant.

Section 4: Compensation. Officers of the Association shall receive no compensation from the funds of the Association for their services.

Article V

Dissolution. If and when the Association is dissolved, all funds and assets remaining after the payment of the outstanding obligations shall be transferred to the United States Marine Corps.

Approved by the Commandant, U. S. Marine Corps, 16 November 1944.